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STUDIES IN THE SOCIAL SCIENCES NUMBER 3

EARLY ECONOMIC CONDITIONS AND THE DEVELOPMENT OF AGRICULTURE IN MINNESOTA

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PREFACE

The original intention, in undertaking a study of the development of agriculture in Minnesota, was to prepare a statistical atlas which should put into graphic form the most significant facts relating to such development. It was believed that an extended series of maps and graphs, showing the distribution as to place and time of the various agricultural industries would be of use to those engaged in such industries, to teachers of agriculture, economic history, and economics, and to students in the field of rural economics.

As the work advanced, however, its scope extended. It soon became clear that a mere presentation of the facts in graphic form, without interpretation, would be of relatively limited advantage; and having once undertaken the task of interpretation, it became necessary to seek explanations in many directions. In the first place, since all extractive industries are largely controlled by physical environment, a preliminary survey of topography, soil, and climate was clearly indispensable. Fortunately it proved possible through the courtesy of Mr. Frank Leverett, of the United States Geological Survey, Mr. U. G. Purssell, Director of the Weather Bureau station at Minneapolis, and Mr. A. Walfred Johnston, Instructor in the Department of Geology and Geography, University of Minnesota, to include new maps relating to the glacial soils, altitudes, and climate of Minnesota, which record the latest available data in these several fields. Some of these will presumably interest many not directly concerned with agriculture. Again, various economic developments were the result of historical causes, and an interpretation of these presupposed a survey of the sources and routes of settlement and transportation, especially during the pre-railroad era. Finally, when it came to agriculture itself, the census returns, separated by ten-year intervals, were found not to record a number of interesting movements, which ran their course in less than a decade; and even when the facts were recorded in the census, their explanation usually had to be sought elsewhere. As a result it was necessary to go through a great mass of contemporary publications and in numerous cases to interview or correspond with men who experienced the development which this work seeks to explain. These sources are partially listed in the notes. This part of the work demanded much time and has considerably delayed the publication. Even with assistance from all available sources, various problems remain but partially solved. In these cases it is hoped that the maps, graphs, and tables at least offer the laboratory material which may assist other investigators to a final solution.

On this account and also because many of the statistics are scattered and not generally accessible, it has seemed worth while to include in the appendix a somewhat extended series of tables from the census, the state statistics, and other sources.

One of the most difficult questions, not however of a statistical nature, concerned the maps of Minnesota. No mathematically accurate maps of Minnesota as a whole, showing civil boundaries at different periods, appear ever to have been made, nor are any likely to become available until the topographic survey of the State by the United States Geological Survey is completed. This uncertainty is greatest in the matter of county boundaries, especially for the earlier decades. As a base map was indispensable for each census period, a general base map of the State was prepared and on this the boundaries at each census year were laid down according to the best contemporary maps, checked by reference to the state statutes and the census. In this way it is hoped that approximate accuracy was attained, though it should be noted that no skilled map makers were available and mathematical precision was not thought necessary for the purpose in hand.

In some cases, moreover, the census and the state laws are apparently in flat contradiction as to the existence of certain counties, while even the state statutes themselves are strangely inconsistent and contradictory. Thus in the map of 1860 (J. S. Sewall and C. W. Iddings) Pipestone and Rock counties were transposed. This was owing to a mistake of the legislature in 1858 which was corrected in 1862 (Special Laws of Minn. 1862, chap. 30). Lac qui Parle County was originally north of the Minnesota River, but this was subsequently included in Chippewa County (Laws of Minn. 1868, chap. 113, sec. 1). The census of 1870 however recognized both Chippewa and Lac qui Parle counties. Swift County was formed out of Chippewa (Laws of Minn. 1870, chap. 90) but the census reported it as formed from Lac qui Parle (Census 1890, Population, Pt. 1, p. 26). Traverse County as established in 1868 overlapped Big Stone to the extent of several townships (Laws of Minn. 1868, chap. 109). The legislature also made several attempts to establish a Lincoln County, apparently forgetting each time what it had done previously, before the present Lincoln County was defined; and this gave rise to not a little confusion.

In connection with this investigation relating to agriculture, it seems proper that attention be called to the urgent need of general state statistics, so arranged as to supplement and unify those issued by the several state departments. Minnesota began the publication of state statistics as soon as it became a state. After 1861 there was an unfortunate lapse which renders the interpretation of the Civil War period difficult and fragmentary at best. In 1868, however, the second series began, and, with the exception of a single year, when the legislature failed to make an appropriation, this second series covers the thirty years, 1868-1898. There it stopped, owing apparently to legislative opposition. As a result, the most recent period in the history of the State is the one most difficult to interpret. In fact, by reason of this lack, the decade from 1900 to 1910 took as much time as the preceding fifty years; and the result is less satisfactory than for any previous decade since the territorial period, except only that of the Civil War. For example, there is no possible means of tracing the decline of the acreage in wheat from 50.69 per cent of all tilled land in 1899 to 25.73 per cent in 1909; yet this meant an agricultural revolution. This difficulty, moreover, is one certain to increase with the passage of time, rendering it less and less possible to understand the course of our agricultural and general economic development, at the very time that the whole State is filled with talk about the back-to-the-land movement. If this movement or any movement for the advancement of economic efficiency is really to have result, and not end in talk, as usually happens, the necessary point of departure would seem to be the re-establishment of a comprehensive system of state statistics covering all lines of economic activity. Certainly until there is available exact and comprehensive information regarding present conditions and tendencies, it is futile to undertake any systematic plan of bettering these conditions.

This argument is not meant to imply that the old state statistics were perfect—far from it—nor that it would be an easy matter to organize a satisfactory system; but it is not believed that the difficulties are insuperable. It is indeed true that so long as live stock are subject to taxation, it is useless to expect an accurate return of such property from assessors. The motives to concealment are too strong. On the other hand, there is no reason why the assessors should not ascertain and report with substantial accuracy the acreage in the several crops and the yield of each, together with the location, character, employees, and capital of fishing, lumbering, mining or quarrying, manufacturing, and trading concerns. Most of these industries, aside from manufactures, are inadequately reported by the United States census; and even the census returns on manufactures are practically limited to the three large cities, together with a brief summary for the State as a whole. On this account, the material does not now exist for an analysis of any industry in Minnesota, aside from agriculture; nor is there any hope of obtaining it, even to the extent necessitated by such a study as this upon agriculture, unless the State shall establish an adequate system of state statistics. Moreover, the expense need not be large. If only there were a permanent state statistician, having scientific qualifications, and it were again made the duty of all assessors to collect the required data, in return for a reasonable compensation, it is believed that the statistician would be able to furnish the kind of information which is indispensable alike for intelligent legislation, wise administration, and scientific investigation.[1]

In addition to the gentlemen previously named, thanks are due to the authorities of the University Library, to several of the departments at Washington as well as the State Capitol, and to many individuals, of whom a few are named in the notes. Col. William W. Folwell and Mr. Frank Leverett kindly read portions of the proof and made valuable suggestions; though the author of course assumes full responsibility for all statements. Special mention should also be made of those who have served as research assistants during the progress of the investigation, namely, Mr. R. A. Graves, who began the work on county boundaries and maps; Mr. Stanley Gillam, who continued the statistical maps; Mr. Bo Westman, who was employed on the tables; and Mr. Fred G. Tryon, who worked on the analysis tables and graphs, and has verified numerous references. All of these manifested an interest and zeal which have been of distinct advantage in the undertaking.

In this connection it should be noted that in view of the immense amount of detailed work involved, this investigation was only made possible through the legislative appropriation for scientific investigation and research.

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[1] Compare the remarks of Mr. D. A. Wallace, *Proceedings Minn. Agr. Soc.* (1911), 231.

CHAPTER I

PHYSICAL FEATURES AND CLIMATE

Area and location

The area of Minnesota is 84,682 square miles, including 80,858 square miles of land and 3,824 square miles of water surface.[1] From the projecting corner north of the Lake of the Woods to the southern boundary, the distance is approximately 400 miles, while the greatest width, north of Lake Superior, is 357 miles. By way of comparison it may be noted that the area of Great Britain (England, Wales, and Scotland) is 88,729 square miles.

Minnesota occupies almost the exact geographical center of North America and contains the sources of three great drainage systems flowing in opposite directions: the Mississippi, the St. Lawrence, and the Nelson. (Figs. 1 and 3.)

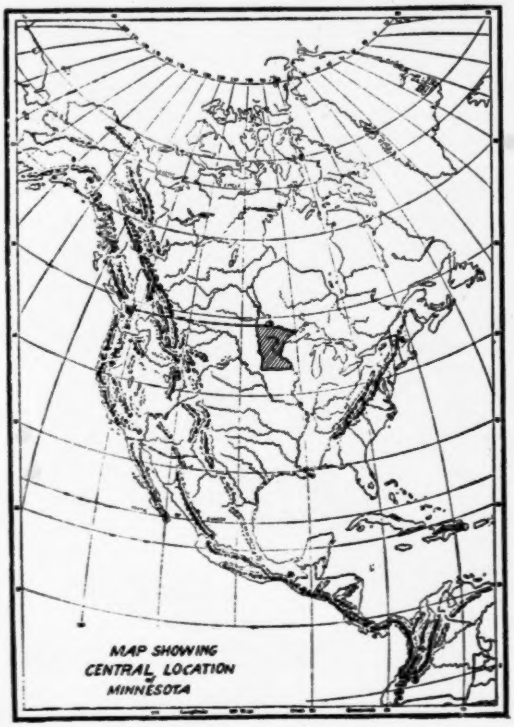

Figure 1. Map of North America showing central location of Minnesota.

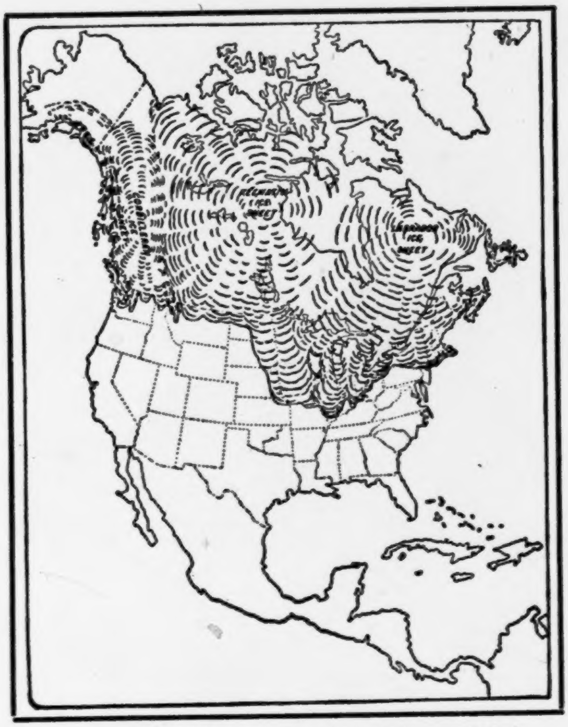

Figure 2. Map showing greatest extent of former glaciation in North America. (After U. S. Geol. Survey)

This central location has affected the economic development of Minnesota in many ways. Owing to the short distances separating navigable waters on the several systems, Minnesota early became a great thoroughfare for white men as it had been for the Indians. The abrupt transition from forest to prairie made lumbering and farming mutually complementary industries. The altitude of the plateau which carries the main divides provided water-power to mill the product of forest and farm. And the enormous deposits of iron ore in the northern part of the plateau assured a many-sided economic activity. Still more important in connection with agriculture are certain facts as to soil and climate.

Underlying formations and glaciation

The geological history of Minnesota is complex and much of it not pertinent to the purpose of the present investigation, especially as the continental ice sheet removed or covered most of the residual soils. The present soil is therefore largely of glacial origin. Only a small area in the extreme southeastern corner, like the adjacent portions of Wisconsin, Illinois, and Iowa, escaped glaciation, presumably because the ice sheets were diverted by highlands and followed pre-existing valleys.

Nevertheless, the underlying formations have not been entirely without effect on topography and soil, and, therefore, on agricultural development. Glaciers do indeed modify profoundly the face of nature, but after all they flow under the influence

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[1] U. S. Geol. Survey, Bul. 302. Other figures of earlier date are given in the *Geol. and Nat. Hist. Survey of Minn.* I, 114.

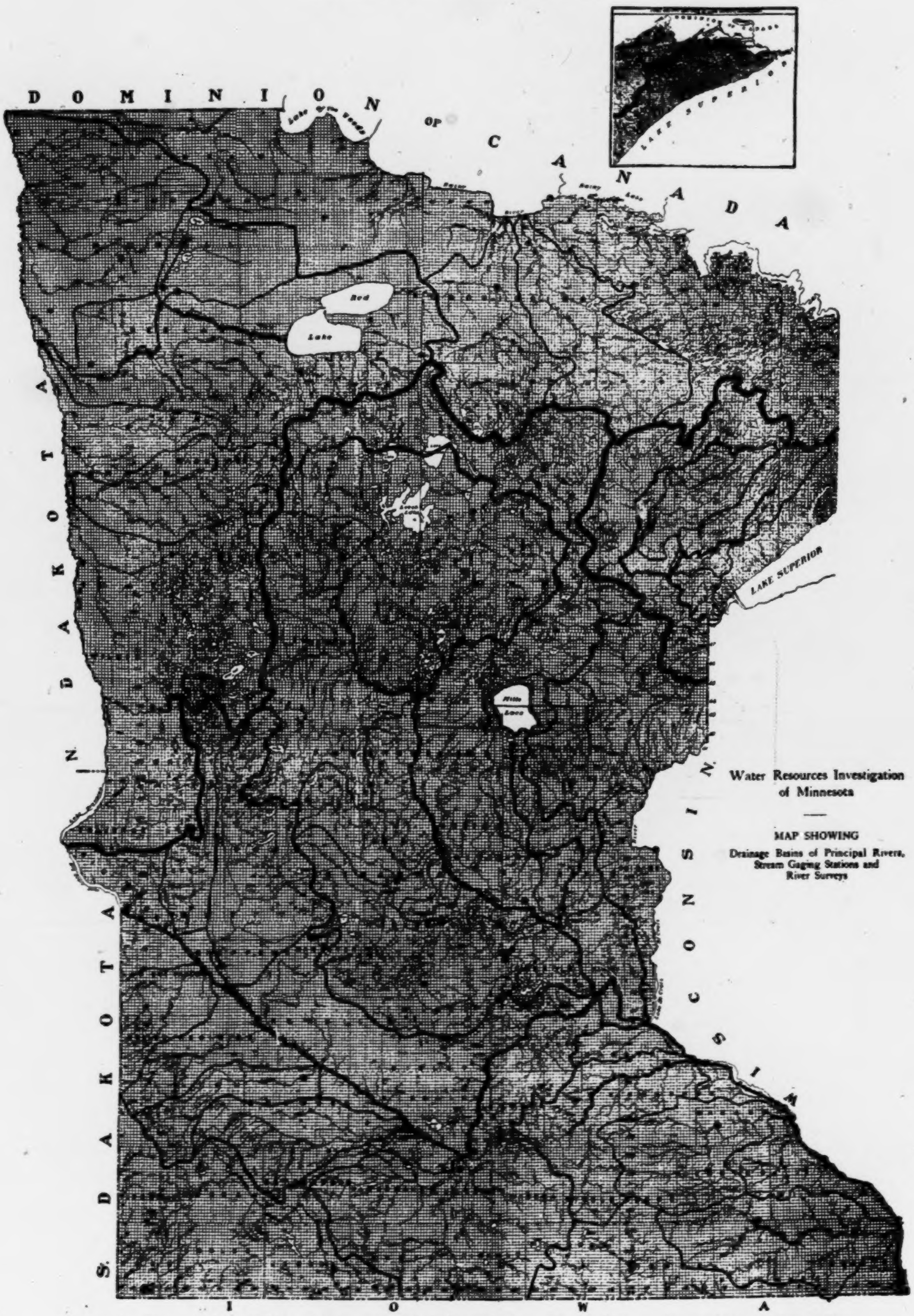
DOMINION OF CANADA
Lake of the Woods
LAKE SUPERIOR
Red Lake
Mille Lacs
LAKE SUPERIOR
N. DAKOTA
S. DAKOTA
WISCONSIN
IOWA
Water Resources Investigation of Minnesota
MAP SHOWING
Drainage Basins of Principal Rivers, Stream Gaging Stations and River Surveys

Figure. 3. The principal divides, showing area of drainage basins. Dots indicate gaging stations and heavy lines show surveys on rivers. (After Water Resources Investigation)

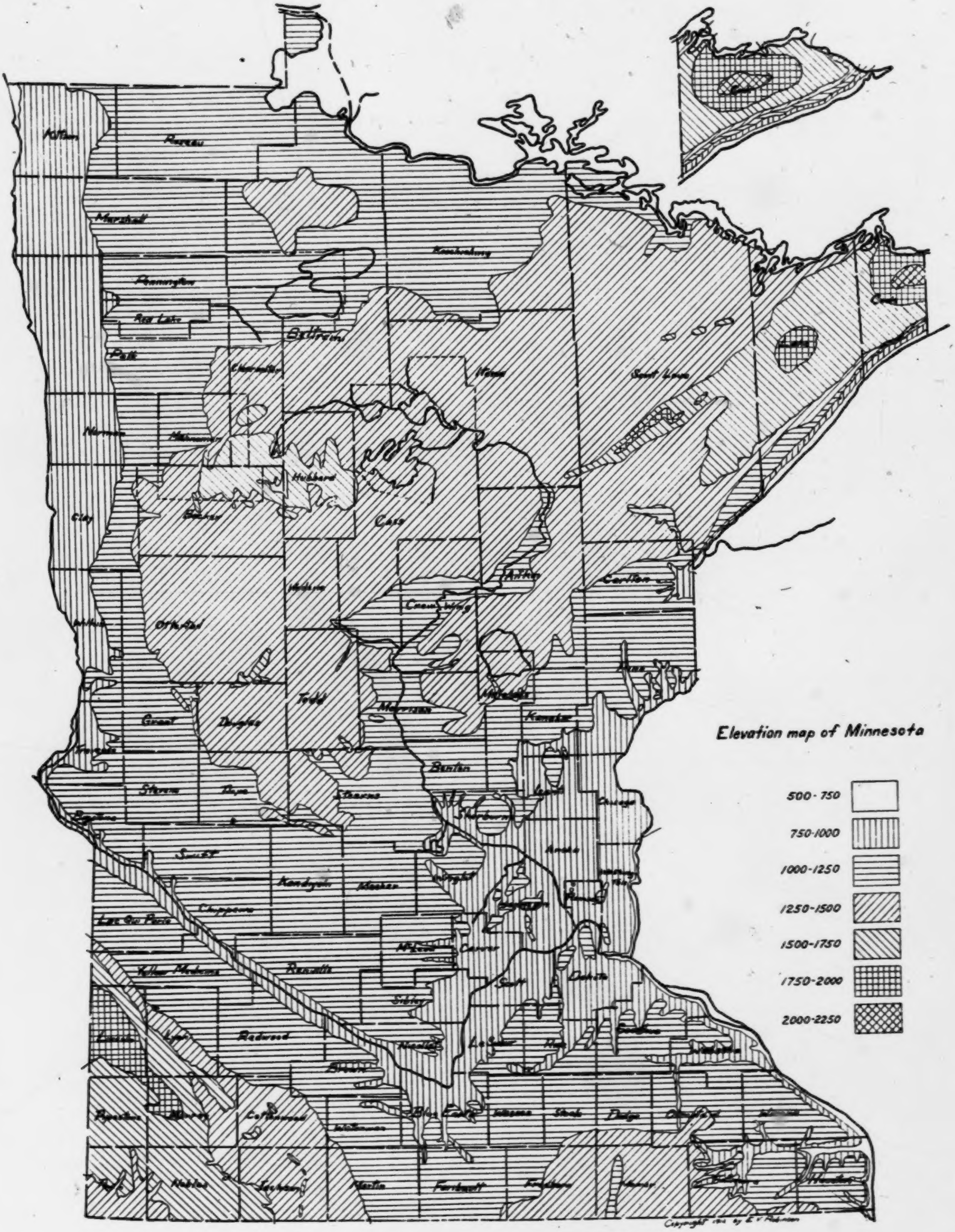
Elevation map of Minnesota
500-750
750-1000
1000-1250
1250-1500
1500-1750
1750-2000
2000-2250
Kittson
Roseau
Marshall
Koochiching
Pennington
Red Lake
Beltrami
Polk
Clearwater
Itasca
St. Louis
Cook
Lake
Norman
Mahnomen
Hubbard
Clay
Becker
Cass
Aitkin
Carlton
Crow Wing
Wadena
Wilkin
Otter Tail
Pine
Todd
Mille Lacs
Morrison
Kanabec
Grant
Douglas
Traverse
Benton
Stevens
Pope
Stearns
Isanti
Chisago
Sherburne
Big Stone
Swift
Anoka
Kandiyohi
Meeker
Wright
Washington
Hennepin
Ramsey
Chippewa
Lac Qui Parle
McLeod
Carver
Renville
Yellow Medicine
Scott
Dakota
Sibley
Lincoln
Lyon
Redwood
Nicollet
Le Sueur
Rice
Goodhue
Wabasha
Brown
Pipestone
Murray
Cottonwood
Watonwan
Blue Earth
Waseca
Steele
Dodge
Olmsted
Winona
Rock
Nobles
Jackson
Martin
Faribault
Freeborn
Mower
Fillmore
Houston

Figure 4. Elevation map of Minnesota. (By A. W. Johnston)

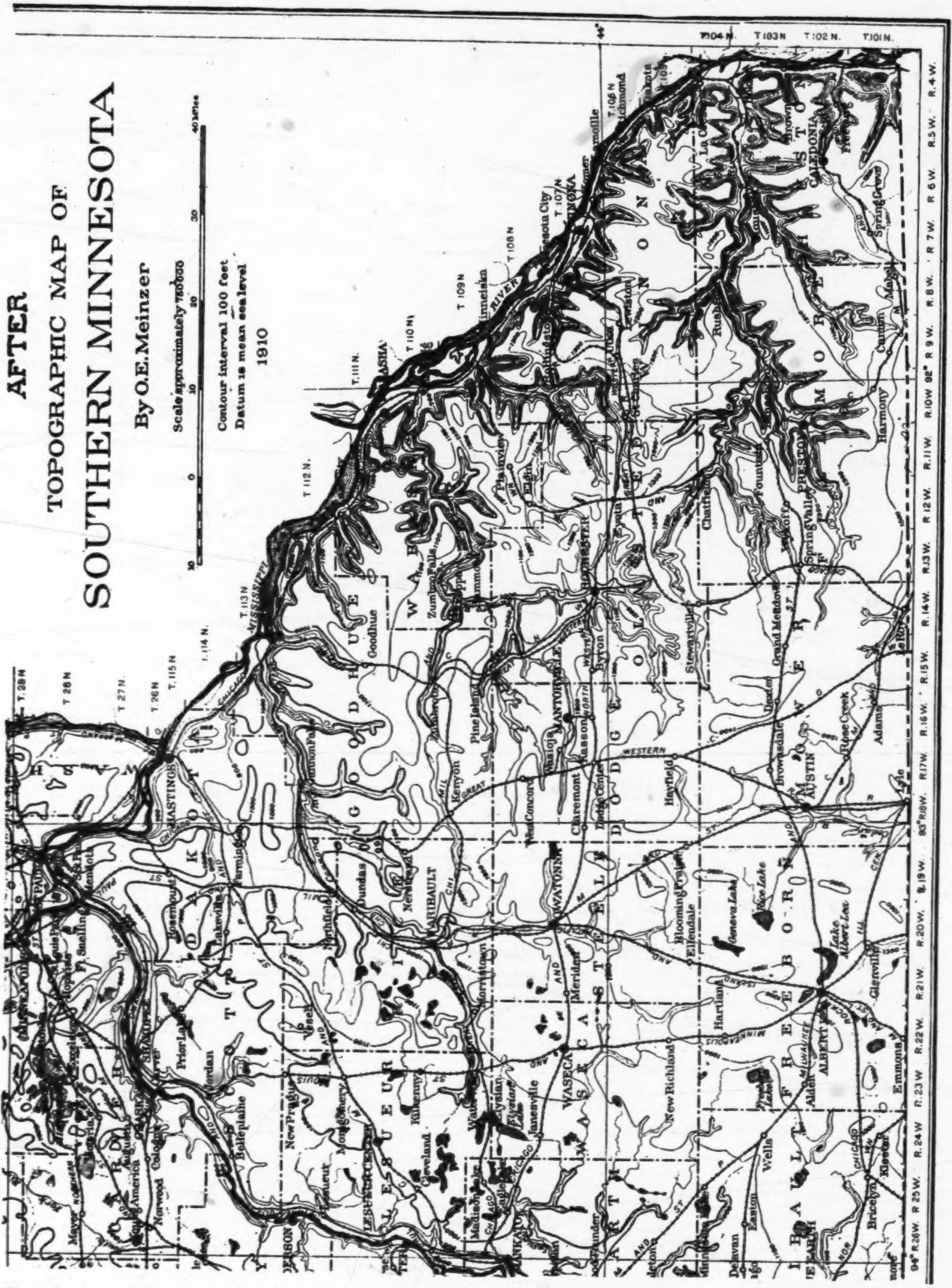
AFTER
TOPOGRAPHIC MAP OF
SOUTHERN MINNESOTA
By O.E.Meinzer
1910
Contour interval 100 feet
Datum is mean sea level
MISSISSIPPI
RIVER
HASTINGS
RED WING
WINONA
ROCHESTER
OWATONNA
FARIBAULT
WASECA
AUSTIN
ALBERT LEA
PRESTON
CALEDONIA
MANKATO

Figure 5. Contour map of southeastern Minnesota showing advanced dissection of the driftless area and the relation of railroads to topography. (U. S. Geol. Survey, Water Supply Paper 256)

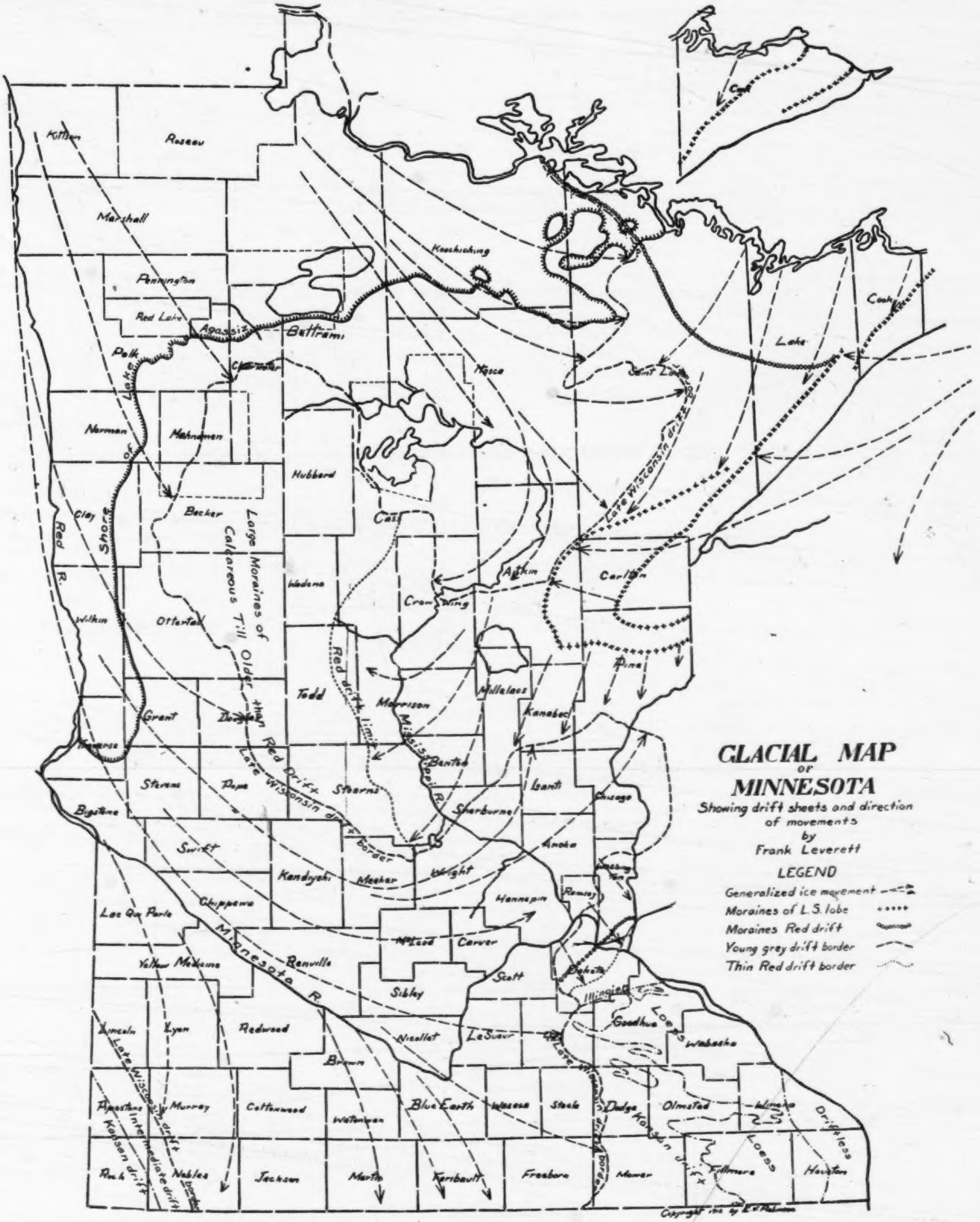
GLACIAL MAP OF MINNESOTA
Showing drift sheets and direction of movements by Frank Leverett
LEGEND
Generalized ice movement
Moraines of L. S. lobe
Moraines Red drift
Young grey drift border
Thin Red drift border
Kittson
Roseau
Marshall
Pennington
Red Lake
Koochiching
Agassiz
Beltrami
Polk
Shore of Lake
Clearwater
Itasca
Saint Louis
Cook
Lake
Norman
Mahnomen
Hubbard
Clay
Becker
Red R.
Cass
Wadena
Crow Wing
Aitkin
Carlton
Late Wisconsin drift
Wilkin
Ottertail
Large Moraines of Calcareous Till Older than Red Drift
Red drift limit
Todd
Morrison
Mille Lacs
Kanabec
Pine
Grant
Douglas
Traverse
Late Wisconsin drift border
Stevens
Pope
Stearns
Benton
Mississippi R.
Sherburne
Isanti
Chisago
Big Stone
Swift
Kandiyohi
Meeker
Wright
Anoka
Washington
Hennepin
Ramsey
Lac Qui Parle
Chippewa
Minnesota R.
McLeod
Carver
Yellow Medicine
Renville
Scott
Dakota
Sibley
Illinoian
Goodhue
Loess
Wabasha
Lincoln
Lyon
Redwood
Nicollet
Le Sueur
Brown
Pipestone
Murray
Cottonwood
Watonwan
Blue Earth
Waseca
Steele
Dodge
Olmsted
Winona
Driftless
Kansan drift
Intermediate drift
Rock
Nobles
Jackson
Martin
Faribault
Freeborn
Mower
Fillmore
Houston
Loess

Figure 6. Glacial soil map of Minnesota. (By Frank Leverett, U. S. Geol. Survey)

of gravity, much like a river; and while they bring some drift from a great distance, the larger part is of local origin. Any rock formation reaching the surface over a considerable area will therefore somewhat affect the character of glacial soil deposited upon it, as well as farther along in the glacial channel.

Uplands and lowlands

Prior to the ice invasions, the valleys were generally deeper, the surface more rolling and more thoroughly drained, than is now the case outside of the driftless area. The principal valley at that time apparently extended from north to south, approximately through the elbow of the present Minnesota Valley, as appears from the distance to bed-rock in different parts of the State. This was part of a preglacial depression due primarily to folding.

The present elevation of the surface is in part the result of preglacial conditions, notably in case of the highlands north of Lake Superior, where glacial stripping doubtless exceeded glacial deposition. There has also been a differential tilting of the surface during or since the glacial age, as shown by the greater elevation toward the north of the beaches of former Lake Agassiz. In part, however, the present elevation and slope of the surface in Minnesota result from the amount of earth and rocks dropped in different localities by the melting ice, together with subsequent erosion by running water.

The greatest altitude in Minnesota is 2,230 feet, north of Lake Superior. Two other regions exceed 1,500 feet; one north of the Minnesota and west of the Mississippi, culminating in Hubbard, Clearwater, and Becker counties, and containing, at about 1,750 feet, the divide between the sources of the Mississippi and the Red River of the North; the other extending across the southwestern corner of the State and forming the divide between the Mississippi and Missouri valleys. This ridge, called the "Shining Mountains" in Carver's account of his explorations,[2] and the "Coteau des Prairies" by the French fur traders, is deeply covered with glacial drift and marks the southwestern limit, in Minnesota, of the later or Wisconsin stage of glaciation. Another upland is found east of the center near the southern border, chiefly in Mower and Freeborn counties. This upland, which reaches 1,412 feet elevation,[3] is a plateau rather thinly covered with drift and forms the divide from which streams flow south to the Cedar River, north to the Minnesota, and east directly to the Mississippi.

The lowest elevation in Minnesota is 602.2 feet[3] at the surface of Lake Superior. There is, however, only a small area of lowlands surrounding Lake Superior. This was formerly flooded when the lake stood at various higher levels, toward the end of the glacial period. Aside from this old lake bed, the lowest elevation is found in the Mississippi-Minnesota bottoms, which stand 615 feet above the sea at the Iowa line.[4] Another region of relatively low elevation is the Red River Valley which, at the Canadian line has an altitude of only 748 feet above sea level.[4] The average elevation for the State is estimated at 1,200 feet.[3]

Soil provinces

During the last or Wisconsin period of glaciation the ice sheet entering the State from the northeast carried the characteristic red drift, derived from the Lake Superior region, considerably beyond the present course of the Mississippi River. Later the Keewatin ice sheet, advancing from the northwest and entering through the Red River Valley, spread a gray drift over most of the western and southern part of the State. Southeast from Red Lake, a broad lobe of this ice sheet overrode the red drift, depositing gray on top of red more than two thirds of the way to Lake Superior. Approaching the south, the ice sheet carrying the gray drift covered all the State between the Coteau des Prairies in the southwest, and the plateau in Mower County toward the east, and overflowed southward into Iowa. A large arm of this ice sheet also turned to the northeast through the Minnesota Valley and overrode the red drift to, and even a little beyond, the present course of the St. Croix River in Washington and Chisago counties.

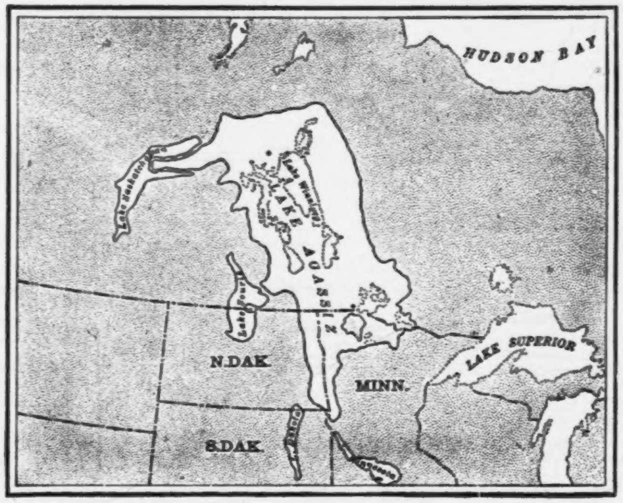

Figure 7. Glacial Lake Agassiz (Upham, U. S. Geol. Survey). A reexamination, however, indicates that the island shown in Lake Agassiz was covered at the highest stage.[4]

In favorable circumstances both types of drift form heavy soils. In general, however, the gray drift, derived in larger part from shale and limestone, has proved the more fertile. In fact, most of the successful farming in the State has been and still is on the gray drift, together with the older drift and the area formerly covered by Lake Agassiz. This fact is, however, due not merely to difference in soil composition, but also to elevation, slope, forest cover, and possibly in some measure to climate.

During the recession of the ice sheet Lake Agassiz was formed against its southern face, in the Red River Valley. This glacial lake at its maximum development exceeded in size the five Great Lakes of to-day.

For many years it was assumed that other glacial lakes, called Lake Minnesota and Lake Undine, occupied the region south of the Minnesota elbow during the retreat of the ice sheet. This theory seemed to explain the generally level surface (except where cut by recent steep-sided valleys) and the heavy soil of a considerable area in Blue Earth and adjacent counties

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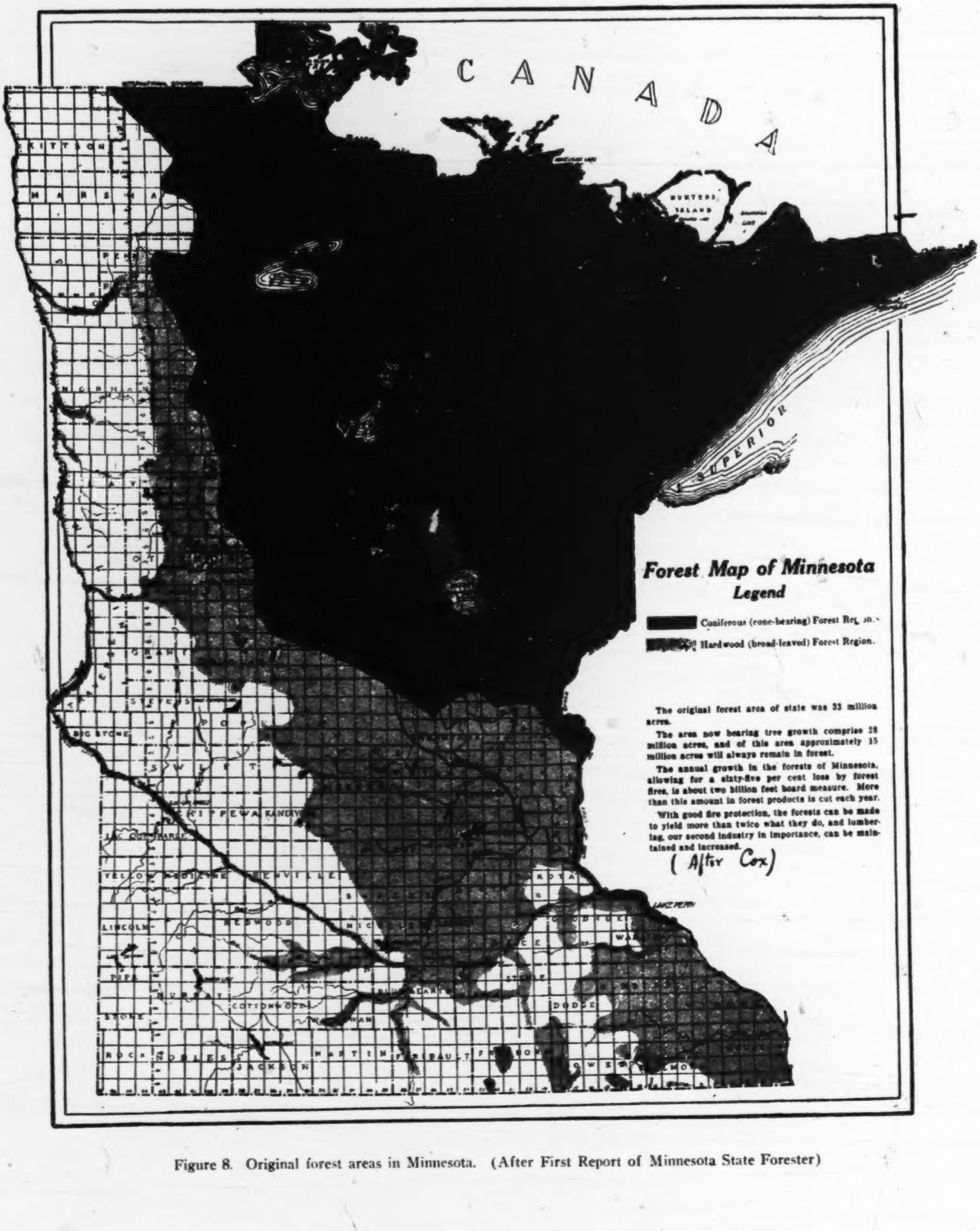
[2] Carver, Jonathan, *Travels through the Interior Parts of North America in the Years 1766, 1767, and 1768* (London 1781), 451.

[3] Weather Bureau, *Summary of Climatological Data for the United States*, secs. 55, 56.

[4] State Drainage Commission, *Water Resources Investigation of Minnesota*, 132, 392.


CANADA
SUPERIOR
HUNTERS ISLAND
KITTSON
NORMAN
CLAY
GRANT
STEVENS
POPE
BIG STONE
SWIFT
CHIPPEWA
KANDIYOHI
LAC QUI PARLE
YELLOW MEDICINE
RENVILLE
LINCOLN
REDWOOD
PIPESTONE
MURRAY
COTTONWOOD
ROCK
NOBLES
JACKSON
MARTIN
FARIBAULT
BLUE EARTH
STEELE
DODGE
MOWER
GOODHUE
LAKE PEPIN

Forest Map of Minnesota

Legend

■ Coniferous (cone-bearing) Forest Region.

▨ Hardwood (broad-leaved) Forest Region.

The original forest area of state was 33 million acres.

The area now bearing tree growth comprise 28 million acres, and of this area approximately 15 million acres will always remain in forest.

The annual growth in the forests of Minnesota, allowing for a sixty-five per cent loss by forest fires, is about two billion feet board measure. More than this amount in forest products is cut each year.

With good fire protection, the forests can be made to yield more than twice what they do, and lumbering, our second industry in importance, can be maintained and increased.

(After Cox)

Figure 8. Original forest areas in Minnesota. (After First Report of Minnesota State Forester)

which somewhat resembles the Red River Valley. However, a recent examination by the United States Geological Survey has failed to find any evidence of beach lines.[5] It follows that if the lakes in question ever existed, they must have been very ephemeral. Surface and soil are apparently the result of location at the bottom of the main glacial channel southward into Iowa during the Wisconsin period of glaciation.

In both the southeastern and southwestern parts of the State, areas of glacial drift older than the Wisconsin period are exposed. A part of this older drift is also covered with loess, a fine silt deposited by the wind, probably between the earlier and the later glaciations. Both the older drift, which is calcareous like the gray Wisconsin, and the loess are very fertile.

The forest areas

The forests of Minnesota have been a factor of prime importance, not only in the commercial development of the State, but also in relation to agriculture. Originally the driftless area and the bordering belt of loess were covered with hardwood; while the "Big Woods," also composed of broad-leaved trees, extended up the Minnesota to the big bend. All the rest of southern and western Minnesota was treeless, except along the streams; while the northern part of the State, aside from the Red River Valley, bore dense coniferous forests, comprising largely white, Norway, and jack pine. These differences as to cover, however they originated, extend in a measure to the soil.

The prairie grasses, growing and decaying more rapidly than forest vegetation, have given to the prairie soil a darker color and a larger proportion of vegetable humus than the forest soils possess. This contrast is less noticeable in the intermediate belt of deciduous forest, but becomes very striking in the northern coniferous zone, especially where the red drift lies on the surface. For this reason the United States Bureau of Soils has taken the boundary between forest and prairie in Minnesota as marking a distinction in the type of soil wherever the surface is drift covered. (Bul. 85, Bureau of Soils.)

In view of the origin, composition, slope, and cover of the soil, Minnesota may be divided into the following five geographical provinces, with special reference to agriculture.

(1) The driftless area, with the adjacent loess-covered belt, in southeastern Minnesota, marked by well-developed drainage, rolling surface, and only moderately fertile soil.

(2) The drift-covered prairie and the deciduous forest zone outside the bed of Lake Agassiz. This region contains numerous belts of terminal moraines and sandy outwash plains which cause the soil to vary greatly in fertility. The drainage is also imperfect in places, some of the prairie sloughs lacking outlets and much of the bottom land, especially along the Minnesota River, being subject to overflow. On the whole, however, there is in this province a large proportion of arable land of high fertility; and most of it is already under cultivation. The areas of older drift in the southeast, southwest, and northwest are in general somewhat better drained and therefore more fully cultivated than the younger drift; though the surface soil is more leached.

(3) The bed of glacial Lake Agassiz. In this area the finest parts of the soil carried by the ice or washed from the surrounding lands were deposited toward the center of the lake, where the water was deepest. This was the origin of the heavy clay soils which have made the Red River Valley one of the greatest wheat-growing regions in the world. There are, indeed, patches of sand and gravel in the midst of the best soil, where glacial streams formerly reached the lake; and there are also long ridges of sand, flanked on either side by sandy loam, marking former beaches of the lake.

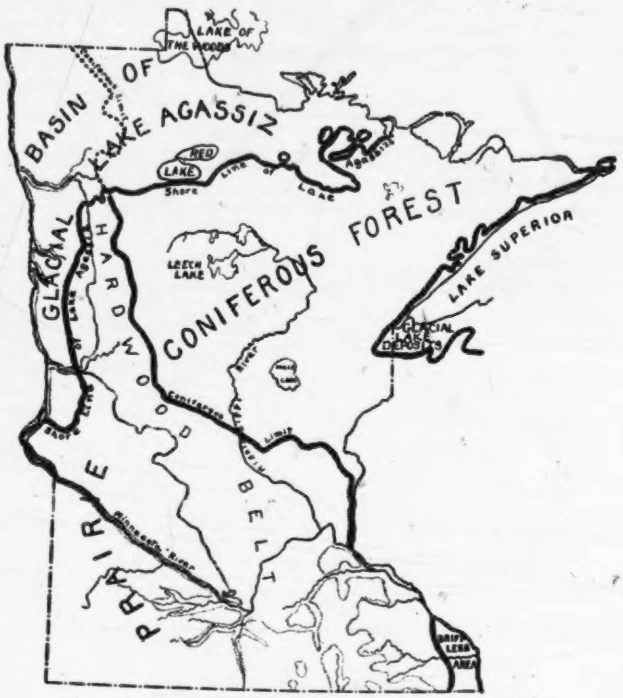


Figure 9. Geographical provinces based on soil and forests. (After Figures 6, 8, and monograph LII, U. S. Geol. Survey, 453.)

The great defect of this lacustrine basin is the lack of adequate natural drainage channels. For this reason the State has made provision for a very extended system of drainage ditches and canals; and a federal survey has been made looking to participation by the United States in the work of draining the ceded portions of the Red Lake Indian reservation. Nearly everywhere the fall is adequate, if only proper channels are provided. There is consequently no reason to doubt that eventually practically all of the lacustrine soils of Minnesota, including the forested and swampy region north of Red Lake, will be occupied by a prosperous agricultural population. At present the heavy clay soils within twenty or thirty miles of the Red River are under the plow, wherever sufficiently drained; but between the several beach lines there are large areas not yet brought under cultivation. Here is one of the most promising districts for agricultural development.

(4) The former bed of Lake Superior, when the lake stood at higher levels. The slope in this area is generally steeper and the drainage better than in the basin of Lake Agassiz. Being in the coniferous zone, agricultural development has hitherto lagged; though there is considerable good soil, with cheap water transportation to market.

---

[5] Result communicated by Mr. Frank Leverett, geologist in charge of the examination (October 15, 1913).

(5) The coniferous zone, outside of the Lake Agassiz and Lake Superior basins. This province has, on the average, a considerably greater elevation than any other in the State (Fig. 4). Nevertheless, owing to the characteristic inchoate drainage of young drift, there are extensive areas of marsh lands subject to overflow. Large parts of these marshes will become valuable for agriculture when drained. The soil in the coniferous zone, however, varies in quality not only from section to section but from acre to acre. The numerous morainic belts contain considerable clay and sometimes bear more or less hardwood. These are excellently adapted to dairy farming, though the surface is often too rocky or too broken for the plow. The more level tracts, on the other hand, are apt to be outwash plains, sandy and originally covered with jack pine, though good alluvial soil appears in the valleys. In general, sand and sandy loams predominate west of a line extending irregularly from Cloquet to International Falls, approximately along the margin of the gray drift; while east of that line rock outcrops and drift boulders become increasingly numerous. There is some farming of the mixed and dairy types, especially in the southern part of the zone; and the settlement of this region is likely to proceed rapidly in future, particularly in the western part and also on the heavy lacustrine soils near Lake Superior. Nevertheless, appreciable areas have already been set aside as permanent forests under either state or federal control; and there are other large districts, notably in the rocky eastern part north of Lake Superior, which in the long run may grow trees more profitably than any other crop, just as is the case in Maine. In the map published in the first report of the State Forester (Fig. 8), there were estimated to be 15 million acres in Minnesota better suited to forest than to any other use: in the absence of a detailed soil survey and land classification map, it is impossible to give exact figures.

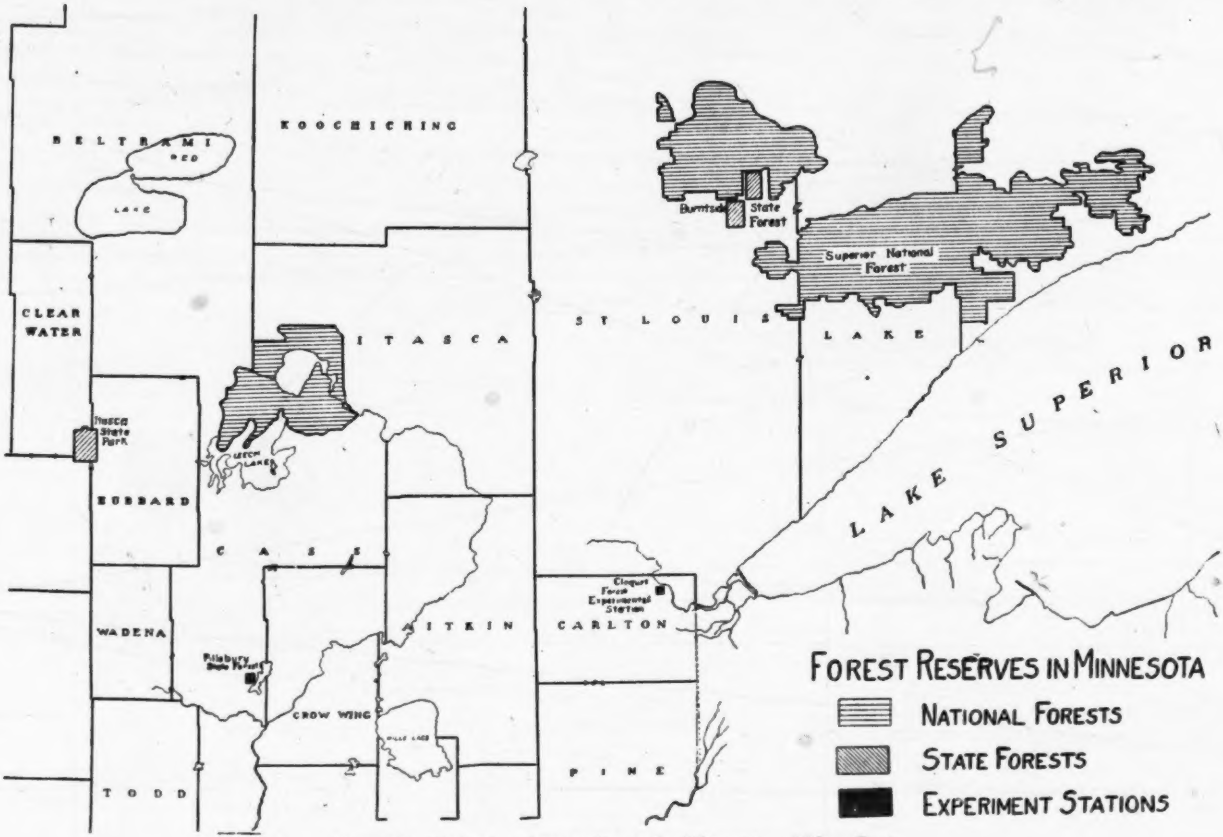

BELTRAMI
RED
LAKE
KOOCHICHING
Burntside State Forest
Superior National Forest
CLEAR WATER
ITASCA
ST LOUIS
LAKE
LAKE SUPERIOR
Itasca State Park
LEECH LAKE
HUBBARD
CASS
WADENA
Pillsbury State Forest
AITKIN
CARLTON
Cloquet Forest Experimental Station
CROW WING
MILLE LACS
PINE
TODD
FOREST RESERVES IN MINNESOTA
▤ NATIONAL FORESTS
▨ STATE FORESTS
■ EXPERIMENT STATIONS

Figure 10. Federal and state forests in Minnesota. (After Cox)

Extremes of temperature

Owing to its central location in North America, Minnesota has a distinctively continental climate, marked by wide variations of temperature. The greatest change recorded at any one place is from 103 degrees F. above to 59 degrees F. below zero, at St. Vincent—an extreme range of 162 degrees F.[6]; though of course the ordinary annual range is much less.

The cold of winter is supposed to stimulate energy and promote forethought. However this may be, frost undoubtedly does promote the disintegration of pebbles in the drift, thus releasing constantly new supplies of plant food; and it provides excellent roads, for some three months each year, wherever the ground is fairly level, especially in swampy areas. This effect of the freeze-up in facilitating transportation has been a great factor in the rapid cutting-away of forests, and also in the development of agriculture.

[6] U. S. Weather Bureau at Minneapolis.

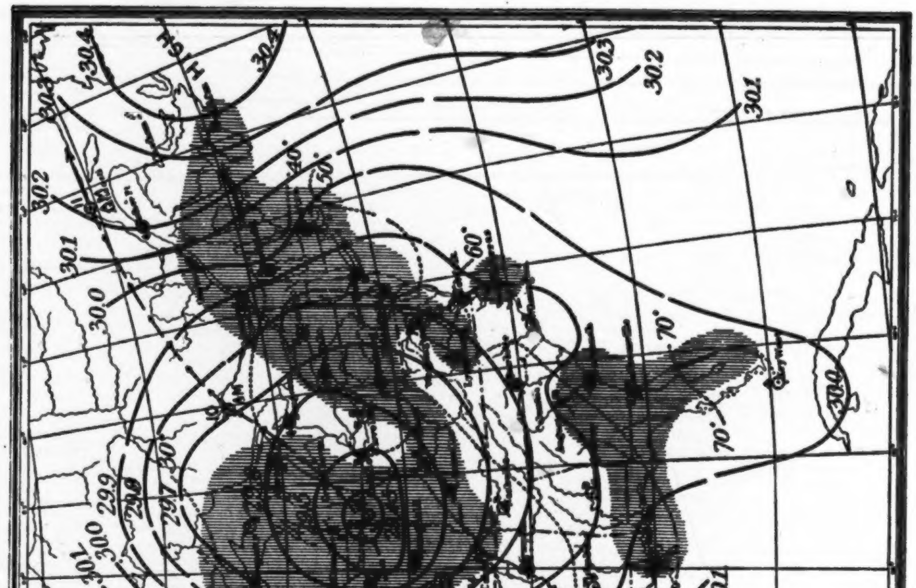

Solid black lines connect places having equal barometric pressure; dotted black lines connect places having equal temperature; arrows point in direction wind is blowing.
○ clear; ◐ partly cloudy; ● cloudy; R rain; S snow.
HIGH indicates center of anticyclone, or high-pressure area; LOW indicates center of cyclone, or low-pressure area.
Shading shows precipitation area of last 12 hours.
LOW
HIGH
30.0
30.1
30.2
30.3
30.4
29.9
29.8
29.7
20°
30°
40°
50°
60°
70°

Figure 11. Weather map, showing conditions on April 9, 1904—8 a. m. (Bul. Q., U. S. Weather Bureau)

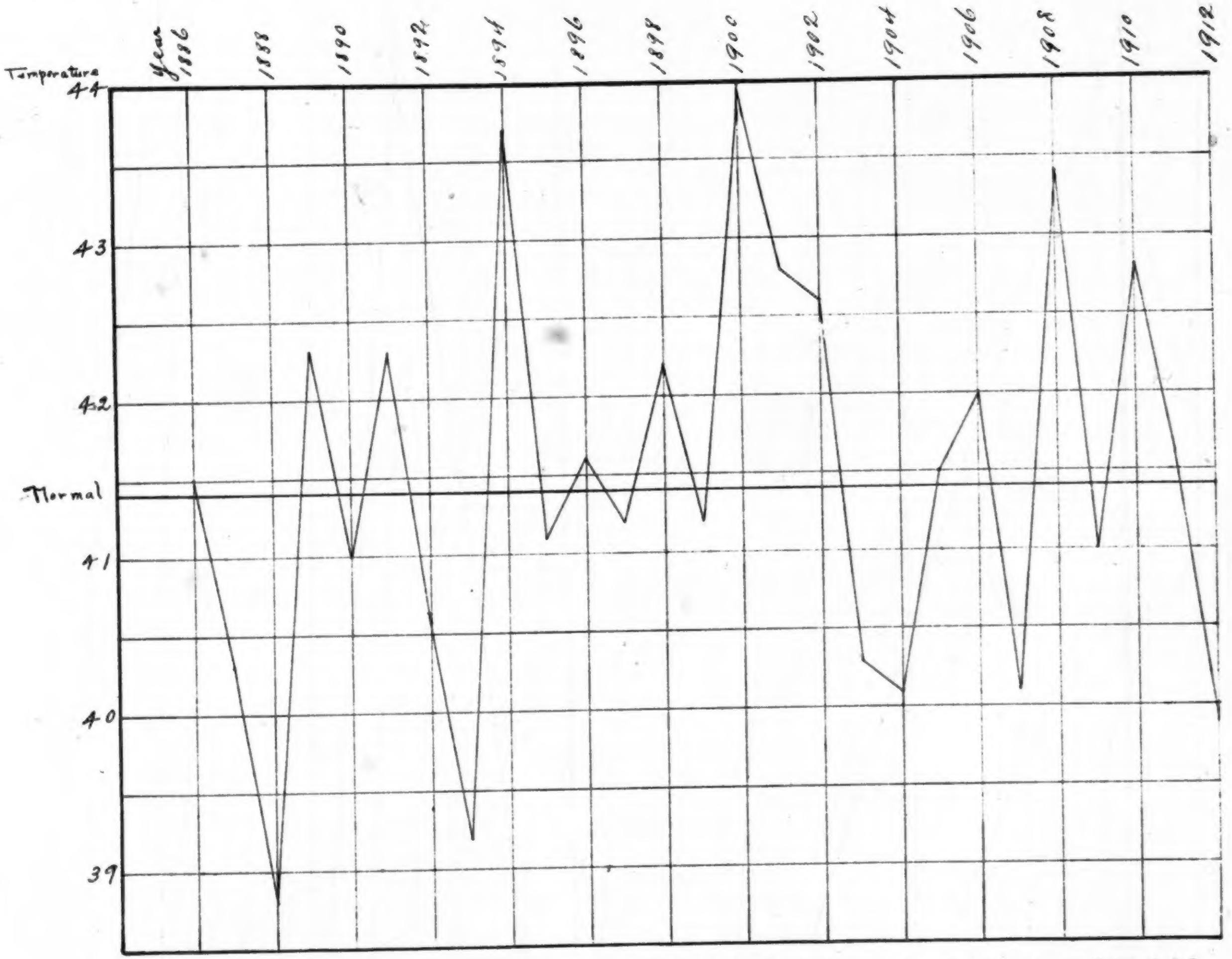


Figure 12. Chart showing average annual temperature for Minnesota, 1886-1912 inclusive. Figures indicate degrees Fahrenheit.[7]

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[7] Based on figures furnished by the U. S. Weather Bureau at Minneapolis.

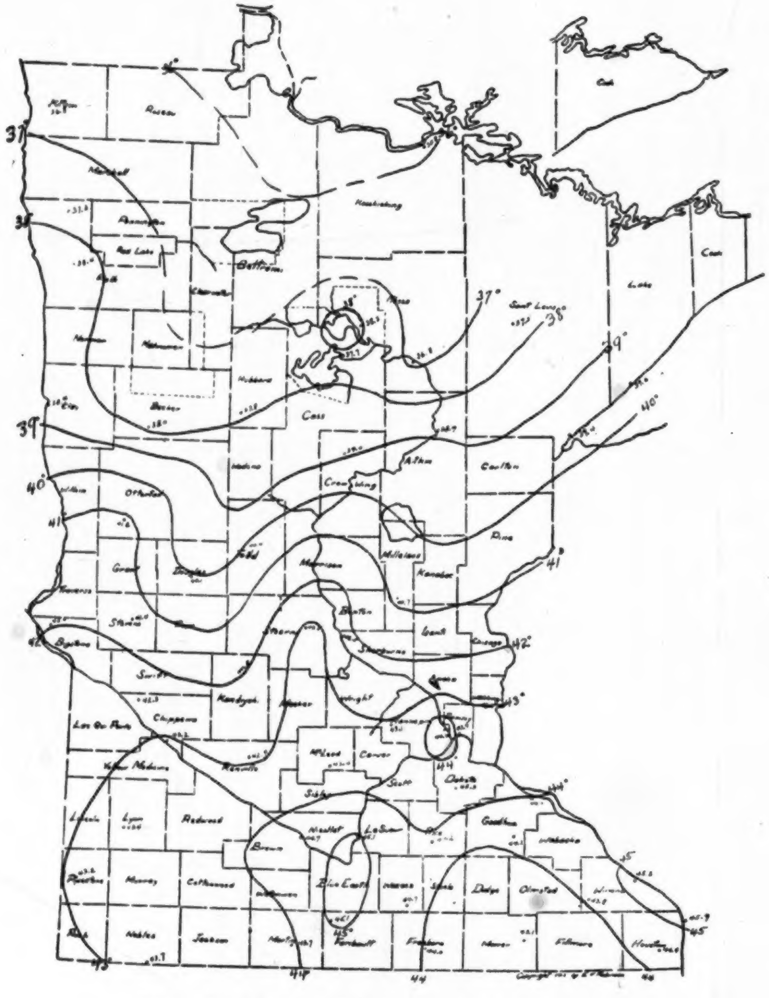

Figure 13. Mean annual temperatures in Minnesota.[7]
(After Purssell)

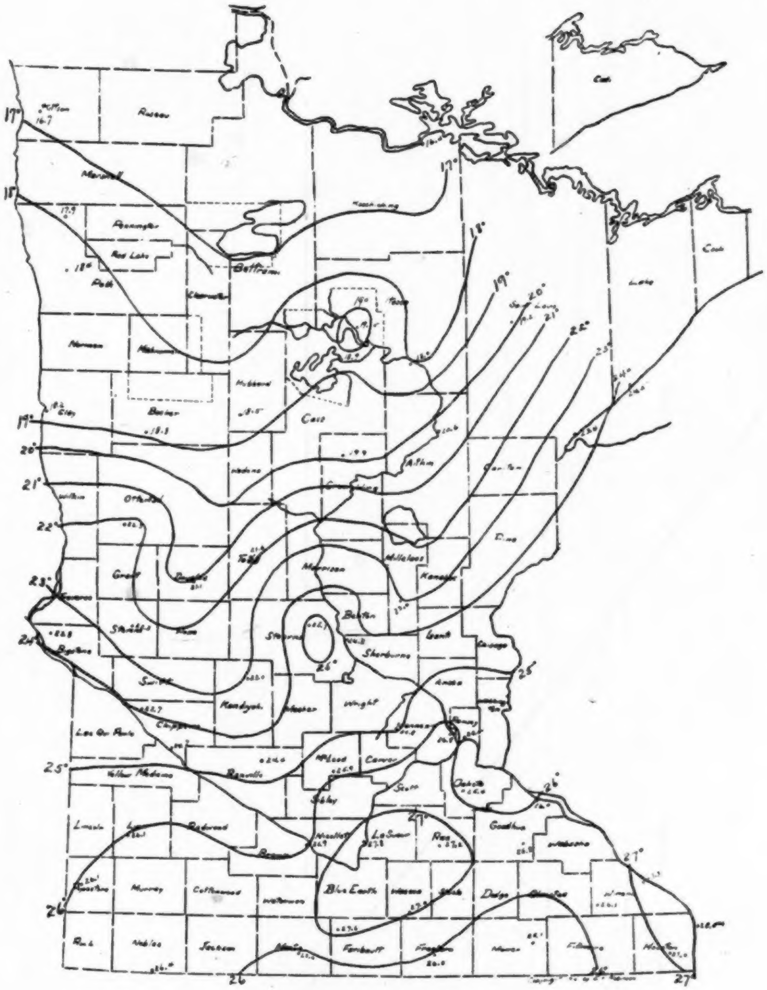

Figure 14. Mean temperatures from October to March.[7]
(After Purssell)

---

[7] Based on figures furnished by the U. S. Weather Bureau at Minneapolis. Figures are degrees Fahrenheit.

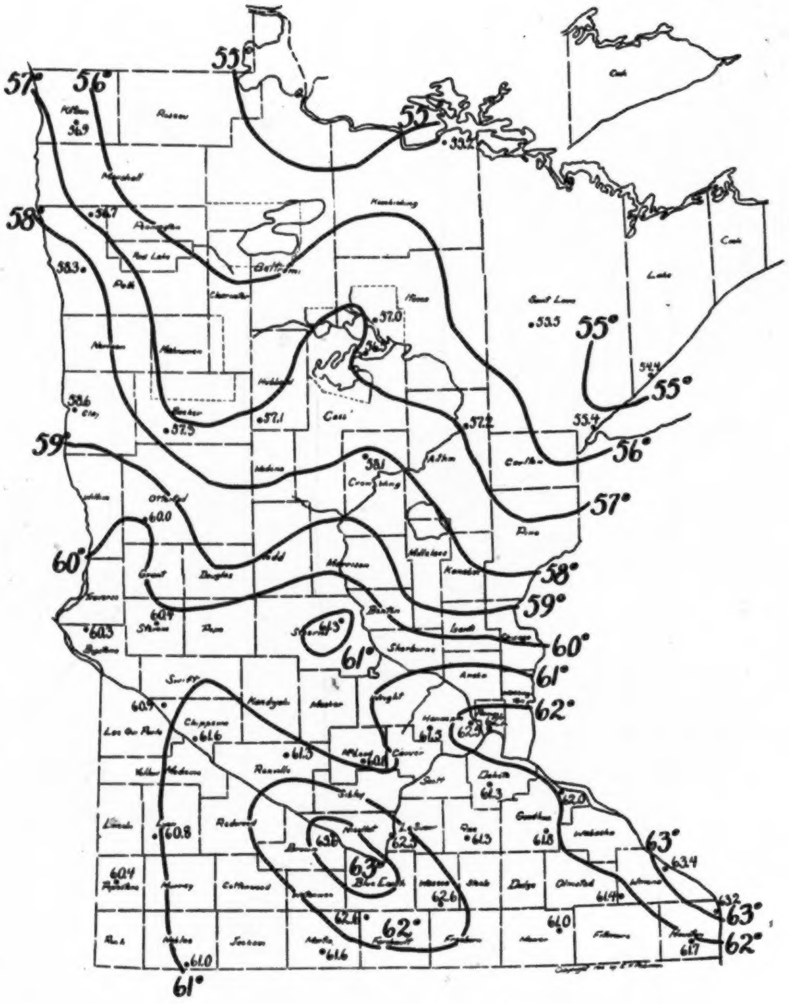
57°
56°
53°
55°
58°
55°
55°
56°
59°
57°
60°
58°
59°
60°
61°
61°
62°
63°
62°
63°
63°
62°
61°

Figure 15. Mean temperatures from April to September.[7]

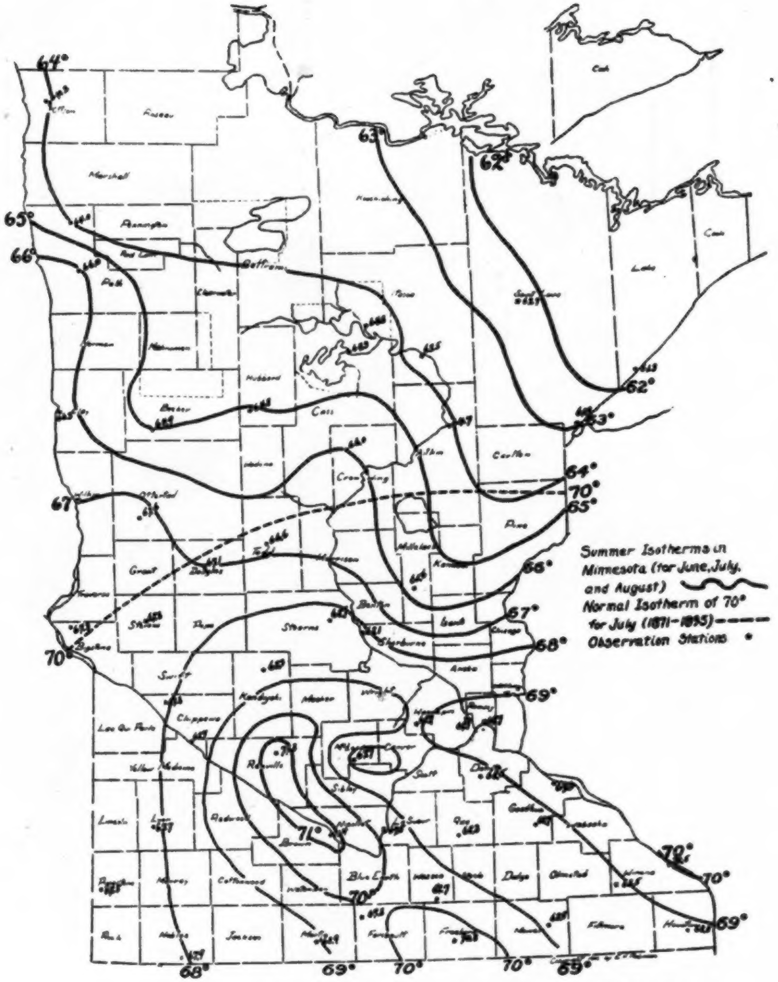
64°
63°
62°
65°
66°
63°
64°
70°
65°
67°
66°
67°
68°
70°
69°
71°
70°
70°
70°
69°
68°
69°
70°
70°
69°
Summer Isotherms in Minnesota (for June, July, and August)
Normal Isotherm of 70° for July (1871-1895)
Observation Stations

Figure 16. Mean temperatures for June, July, and August; with isotherm of 70° F. (dotted line) for July.[7] (After Purssell)

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[7] Based on figures furnished by the U. S. Weather Bureau at Minneapolis. Figures are degrees Fahrenheit.

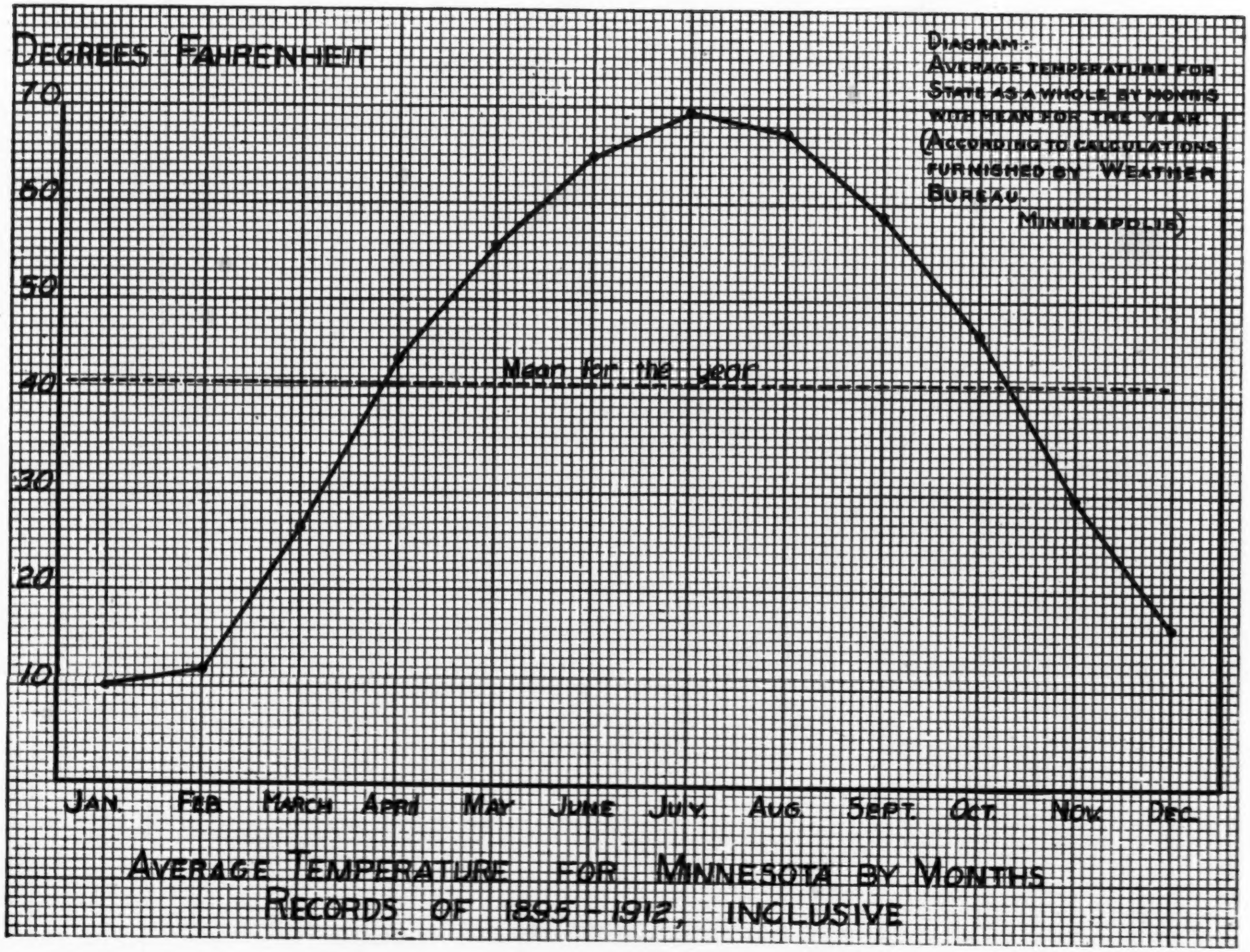

Figure 17. Average temperature for Minnesota by months, 1895-1912.[8]
(Data from Weather Bureau at Minneapolis)

[8] MEAN MONTHLY TEMPERATURE IN MINNESOTA

(Average of all stations reporting. Period April, 1895 to July, 1913, inclusive.)

Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year
10.1	11.7	26.5	43.9	55.2	64.7	69.1	67.1	58.8	46.6	29.6	16.2	41.6

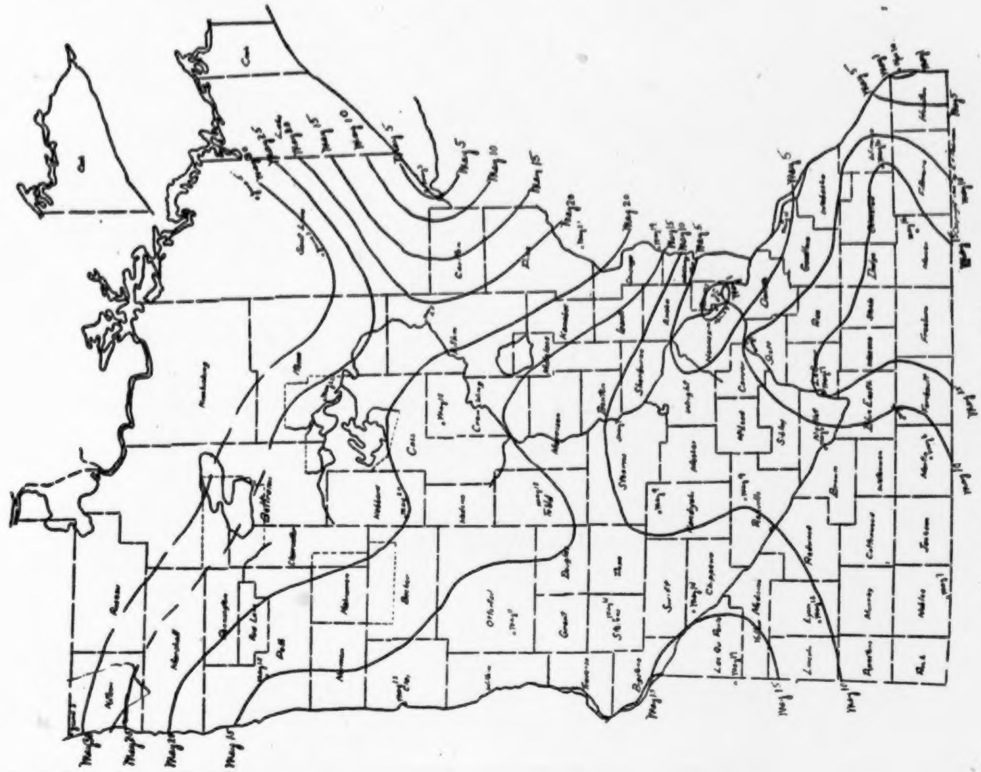
May 5
May 10
May 15
May 20
May 25
Cass
Crow Wing
Otter Tail
Polk
Marshall
Kittson

Figure 18. Average dates of last killing frosts in spring. (After Purssell)

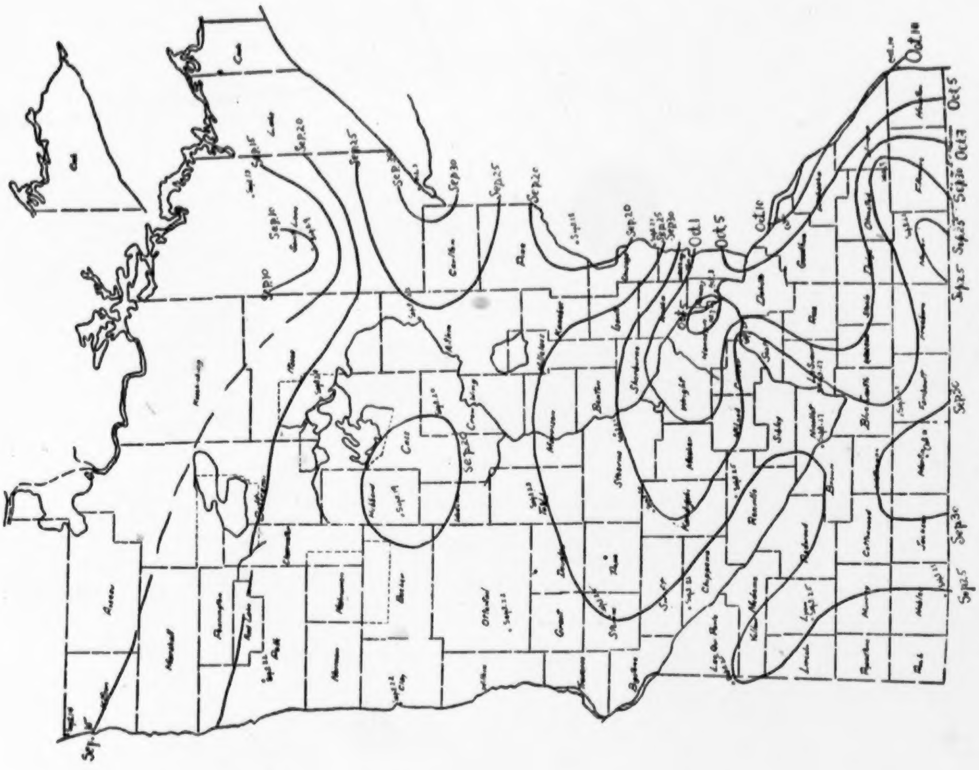
Sep 15
Sep 20
Sep 25
Sep 30
Oct 1
Oct 5
Oct 10
Cass
Crow Wing
Otter Tail
Polk
Marshall
Kittson

Figure 19. Average dates of first killing frosts in autumn. (After Purssell)

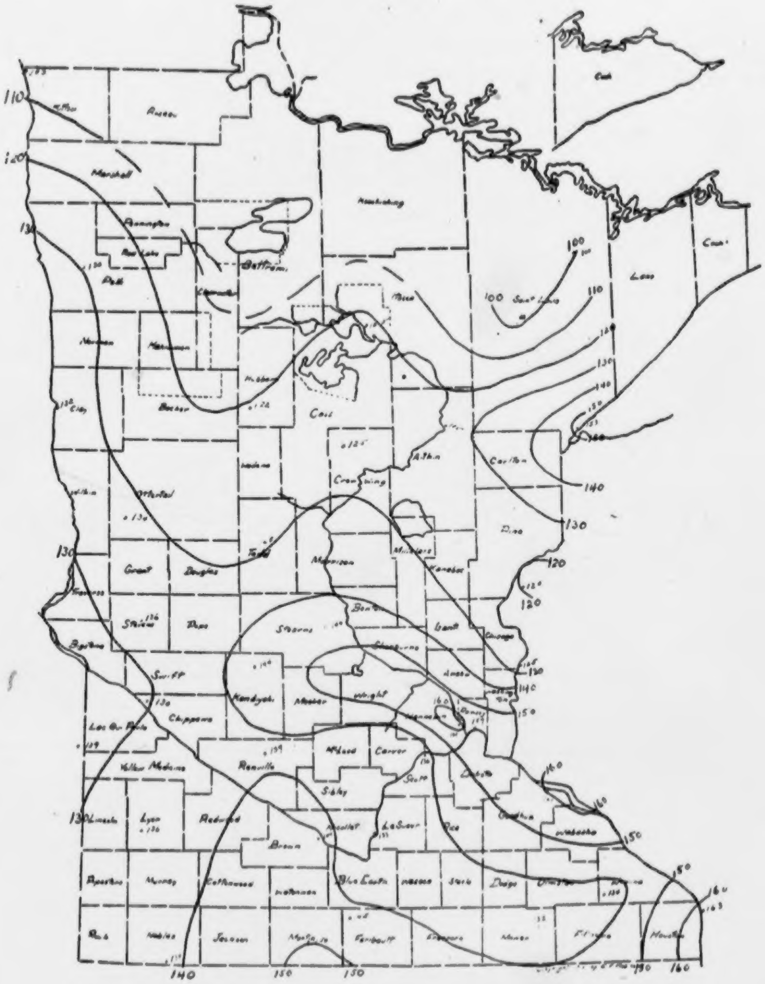
110
120
130
100
140
150
160
Kittson
Roseau
Marshall
Pennington
Red Lake
Polk
Beltrami
Koochiching
Lake
Cook
Itasca
St. Louis
Norman
Mahnomen
Clearwater
Hubbard
Clay
Becker
Cass
Wadena
Otter Tail
Crow Wing
Aitkin
Carlton
Pine
Todd
Grant
Douglas
Morrison
Mille Lacs
Kanabec
Traverse
Stevens
Pope
Stearns
Benton
Sherburne
Isanti
Chisago
Big Stone
Swift
Kandiyohi
Meeker
Wright
Anoka
Lac Qui Parle
Chippewa
Yellow Medicine
Renville
McLeod
Carver
Hennepin
Ramsey
Washington
Scott
Dakota
Sibley
Goodhue
Wabasha
Lincoln
Lyon
Redwood
Brown
Nicollet
Le Sueur
Rice
Pipestone
Murray
Cottonwood
Watonwan
Blue Earth
Waseca
Steele
Dodge
Olmsted
Winona
Rock
Nobles
Jackson
Martin
Faribault
Freeborn
Mower
Fillmore
Houston

Figure 20. Average length of growing season in days. (After Purssell)

Areas of high and low pressure

In common with the rest of the country, but to a greater extent than regions nearer the ocean, the variations both of temperature and of precipitation are connected with the passage from west to east of areas of low pressure followed by other areas of high atmospheric pressure. Since the winds blow toward areas of low pressure and away from areas of high pressure, the surface winds are constantly veering. On the whole, however, southwest winds predominate in summer; while in winter when the areas of low pressure often pass farther to the south, northwest winds are more frequent. The clear and cool wind from the northwest is refreshing in summer after the close, moist condition of the atmosphere which marks the passage of an area of low pressure; but in winter a wind from the northwest is apt to bring a cold wave. The occurrence of a few clear, dry days each winter with the temperature about 20° F. below zero, as a result of such conditions, has in the past somewhat limited the fruitgrowing industry of the State, pending the development of hardy varieties.

Annual and seasonal temperatures

The average annual temperature for the State as a whole is subject to considerable variation. From 1886 to 1912 it has once (in 1888) fallen below 39 degrees F., and three times (in 1894, 1900, and 1908) it has gone above 43 degrees F. For the entire twenty-seven year period, the average temperature has been 41.4 degrees F. (Fig. 12); for the period April, 1895, to July, 1913, 41.6 degrees F. The latter record is presumably the more reliable, as it represents a much greater number of stations.

A map showing the mean annual temperatures of different parts of the State indicates that the highest annual temperature is a fraction over 45 degrees F., in the Mississippi Valley toward the Iowa line, and also in the relatively low lands south of the elbow of the Minnesota River; while the lowest annual temperature is 36 degrees F., in the extreme north of the State. In general, it is noticeable that the isothermal lines bend to the north, indicating higher temperatures, in all important valleys, and also near Lake Superior. On the other hand, all considerable elevations are marked by a southward dip showing lower temperatures.

During the months from October to March inclusive, the average temperature varies from 27 degrees F. in the southeastern corner and in the elbow district previously mentioned, to 17 degrees F. along the northern border—a range of 10 degrees (Fig. 14).

In this latitude, however, where most crops are planted in the spring and harvested in the autumn, less importance attaches to the winter temperatures, or even to the annual isotherms, than to the heat of the growing season. During this season, from April to September, inclusive, the highest average temperature is 63 degrees F., in the southeast and in the Minnesota elbow region; while the lowest is 55 degrees F., near the Lake of the Woods and also near Lake Superior. The extreme range in the growing season, from south to north, is thus 8 degrees F. The northward bend of the isotherms in the valleys is even more pronounced than on the map of annual temperatures (Fig. 13). Still more significant than the isotherms for the entire growing season are the temperatures for the three summer months, which have a special relation to the ripening of grain; while for certain crops the isotherm of 70 degrees F. for the warmest month is thought important (Figs. 15, 16).

For the State as a whole, a chart showing the average temperature by months brings sharply to view the considerable range between the winter and the growing seasons, resulting from the midcontinental location of the State in middle latitudes (Fig. 17). It is this high temperature in summer and the lingering of heat in the autumn, shown by the more gradual slope on the right, which render summer farming so independent of winter temperatures.

Length of growing season

More important in some respects than the temperature is the length of the growing season, between the last spring and first autumn frosts. The average date of the last killing frost in the spring varies from May 1, in the southeast, to May 30, in the extreme north (Fig. 18). There is a curious island of frost immunity around Minneapolis and St. Paul. Several other maps have shown an island of higher temperature in that locality, for which no convincing explanation has been advanced; though some investigations of climate in great cities have sought to show a change of temperature due to the artificial heat generated there. Possibly the blanket of smoke, checking radiation, may have some effect. It is worthy of note that, owing to the moderating effect of Lake Superior, killing frosts do not occur later in the spring at Duluth than at Winona. This relative immunity also extends back in all directions a considerable distance from the lake.

The average date of the first killing frost in autumn is September 10, on the iron ranges, and October 10, in the southeastern lowlands. The range in this case, as in the date of the last spring frost, is thus a month. The same relative immunity to frosts is found around Lake Superior and about the Twin Cities, as on the map of spring frosts (Fig. 19). Considerable irregularity develops in the southern part of the State, due to the early frosts on the higher uplands; and also in parts of the Minnesota Valley, which acts as a catch basin for the cold air from the lower adjacent hills.

The average length of the growing season, representing the interval between the dates shown on the last two maps, necessarily partakes of all the peculiarities there indicated. The growing season varies from one hundred sixty days in the southeast and around the Twin Cities, to one hundred days on the iron ranges—an extreme range of substantially two months. This range is sufficient to introduce very considerable differences in the crop systems of the several parts of the State. The map brings out in a striking manner the influence of elevation in shortening, and proximity to large bodies of water in lengthening, the growing season. Thus the absence of late spring and early fall frosts in the vicinity of Lake Superior gives a growing season nearly ten days longer than the average in the State. This fact suggests that the south-facing slope north of Lake Superior, as far as formerly flooded by the lake, may not improbably become the seat of intensive culture of hardy fruits and vegetables, provided they do not require high summer temperatures. The cheapness of transportation by water to large and growing urban populations affords additional advantages, as in the case of the eastern shore of Lake Michigan.

For the State as a whole, the average growing season, from 1898 to 1912, has been 132.2 days: the longest being 145 days, in 1905; the shortest, 118 days, in 1907. The extreme range in average length of growing season for the entire State from 1898 to 1912 has thus been twenty-seven days or approximately a month.

Annual and seasonal precipitation

The rainfall in Minnesota, as in most of the region east of the Rocky Mountains, is of the summer or semi-monsoon type. The moisture-laden air from the south and east, pressing inward toward the heated interior of the continent, is drawn into the areas of low pressure, where it is chilled in the process of rising and drops a part of its moisture in the form of rain. There is also some precipitation from local thunder storms, not connected with the eastward movement of large areas of low pressure.

The average annual precipitation for Minnesota from 1886 to 1912 inclusive, was 26.52 inches; for 1895-1912 it was 27.16 inches. If the figures be limited to stations having a record of 10 years, the average is 26.9; and if the figures be weighted in proportion to the areas represented, the resulting weighted average is 26.86 inches.[9] From 1886 to 1896, the average was below normal in every year but one; from 1896 to 1906, on the other hand, the average precipitation was above normal in every year but two; in 1907, again, began a period of sharp fluctuation, 1910 being by 30 per cent the driest year on record. As in the case of temperature, so in the matter of rainfall, the annual amount is less important than its distribution throughout the year.

According to these figures, 20.37 inches, or exactly 75 per cent of the total, fell during the growing season, from April to September inclusive. The rainfall during that period is thus equal to the amount for the same months in northern Illinois, Indiana, Ohio, Pennsylvania, and New York, though the yearly average in all these districts is considerably greater than in Minnesota. Moreover, evaporation, while not yet accurately measured except for water surfaces, tends to vary directly with temperature and is therefore less rapid in Minnesota than in regions farther south (Fig. 24). For both of these reasons, a rainfall of 27 inches in Minnesota is equal, in crop-producing power, to 40 or even 50 inches at other seasons or in lower latitudes.

The average annual precipitation is greatest (34 inches) in the southeast, and least in the northern Red River Valley. In that region, however, as much as 77 per cent of the precipitation occurs in the growing season. The effect of Lake Superior is clearly seen in the relatively heavy precipitation along its northern shore.

[9] Based on figures furnished by the U. S. Weather Bureau at Minneapolis

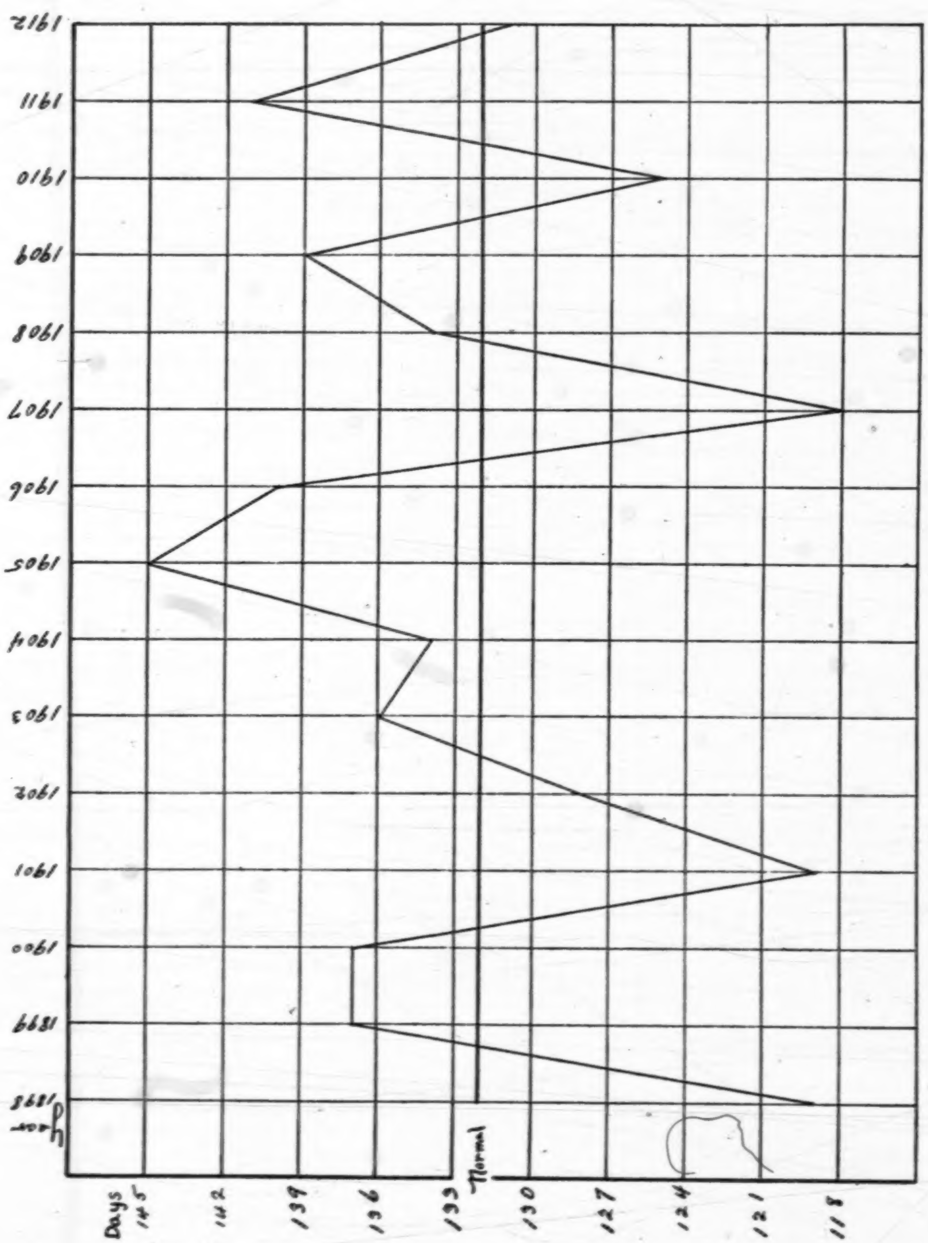

Figure 21. Variations in average length of growing season in Minnesota, 1898-1912.

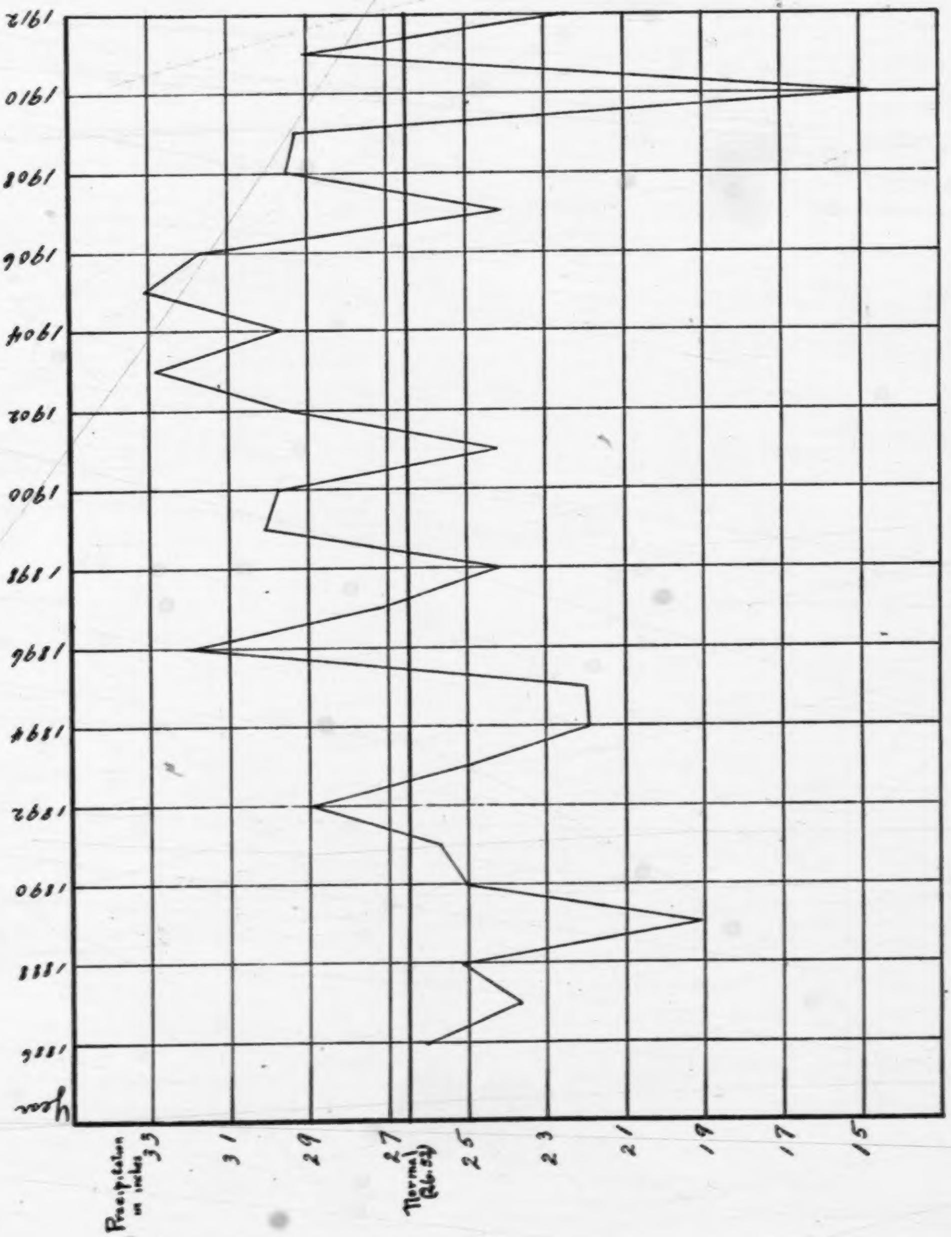

Figure 22. Average annual precipitation in Minnesota by years from 1886 to 1912 inclusive.[9]

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[9] Based on figures furnished by the U. S. Weather Bureau at Minneapolis.

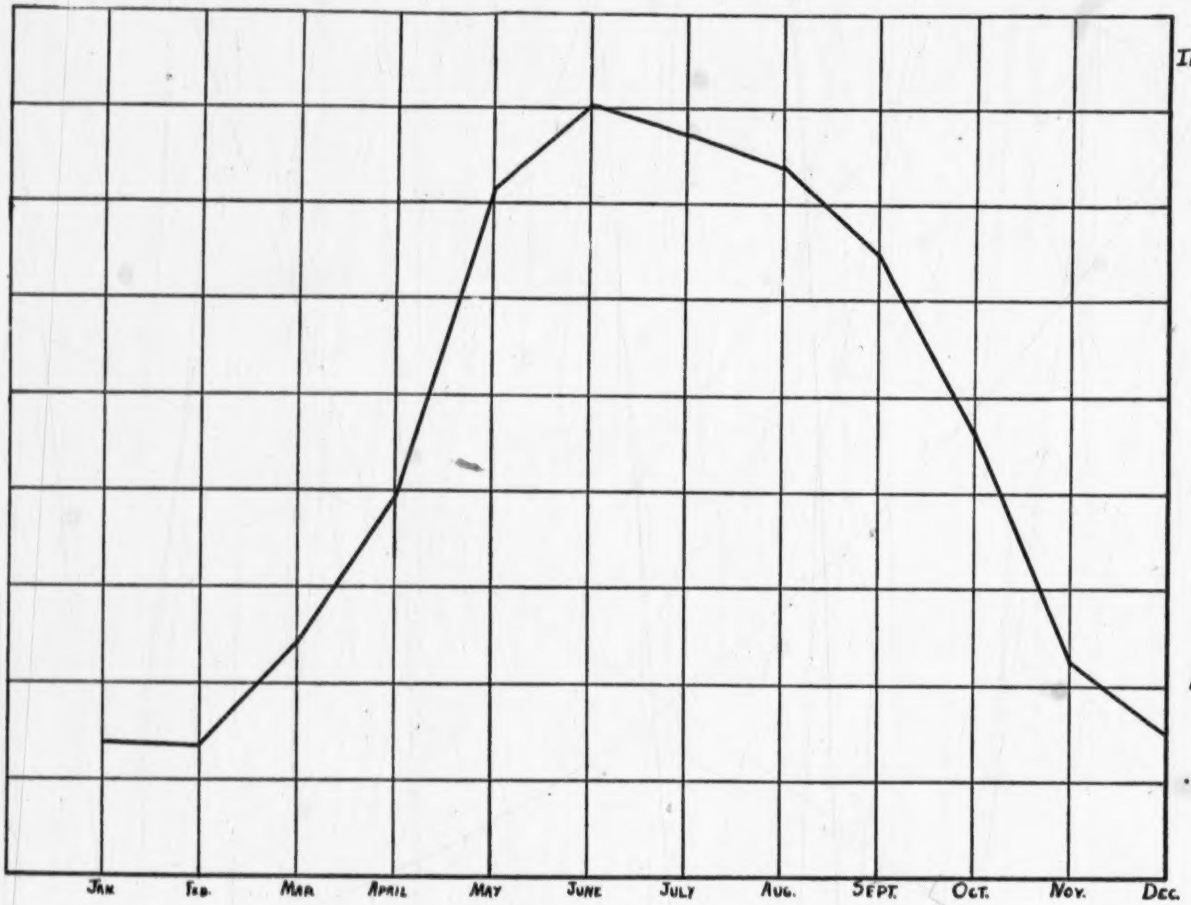

Figure 23. Average precipitation in Minnesota by months, May, 1895 to July, 1913. (Data from Weather Bureau)[10]

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[10] AVERAGE PRECIPITATION FOR MINNESOTA

As determined from the records of all stations reporting for the period from May, 1895 to July, 1913, inclusive. (Data from Weather Bureau at Minneapolis.)

Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year
0.69	0.67	1.22	1.98	3.59	4.01	3.86	3.69	3.24	2.31	1.14	0.76	27.16

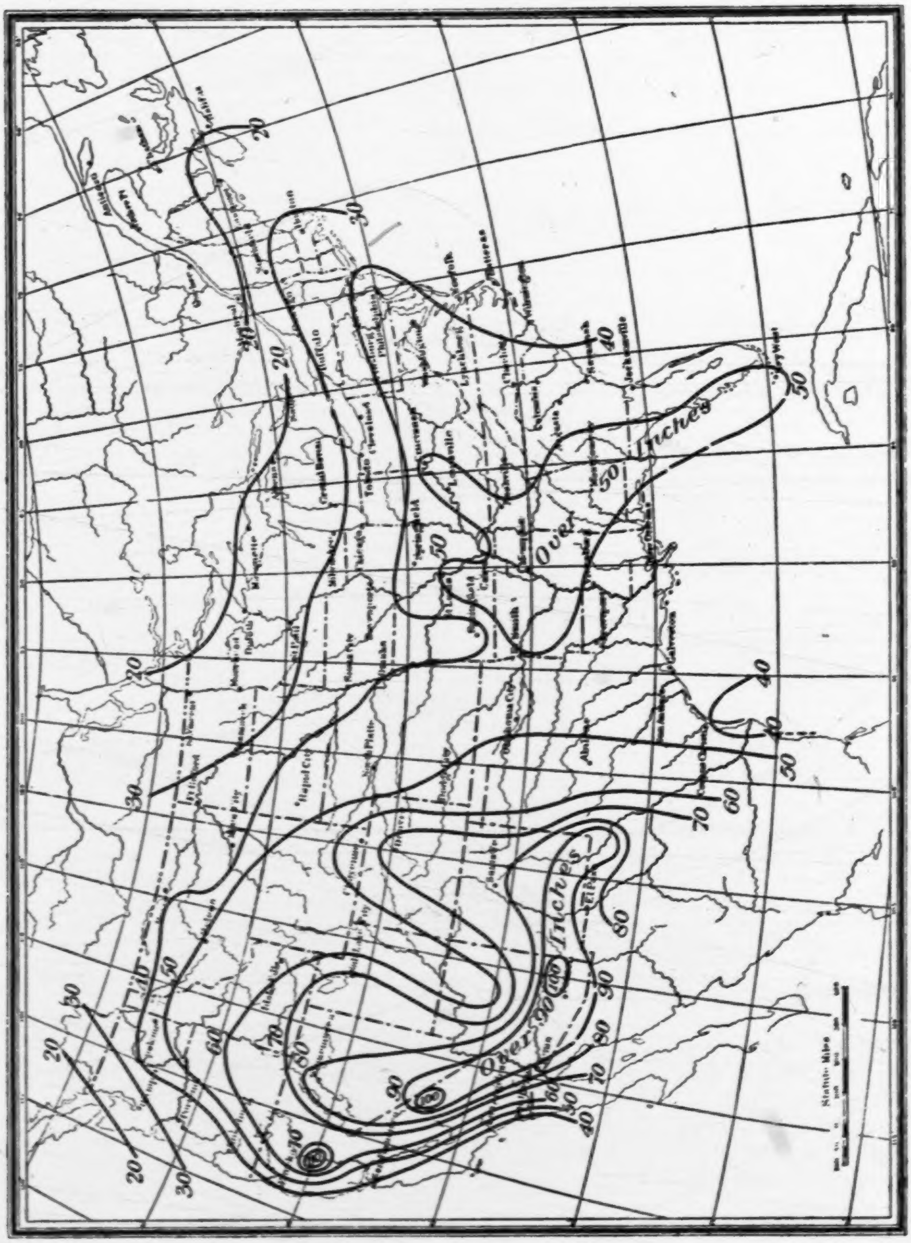
20
30
40
50
60
70
80
90
100
Over 50 Inches
Over 90 Inches
Statute Miles

Figure 24. Annual depth of evaporation in inches from a free water surface. (Monthly Weather Review, Dec., 1904, 558)

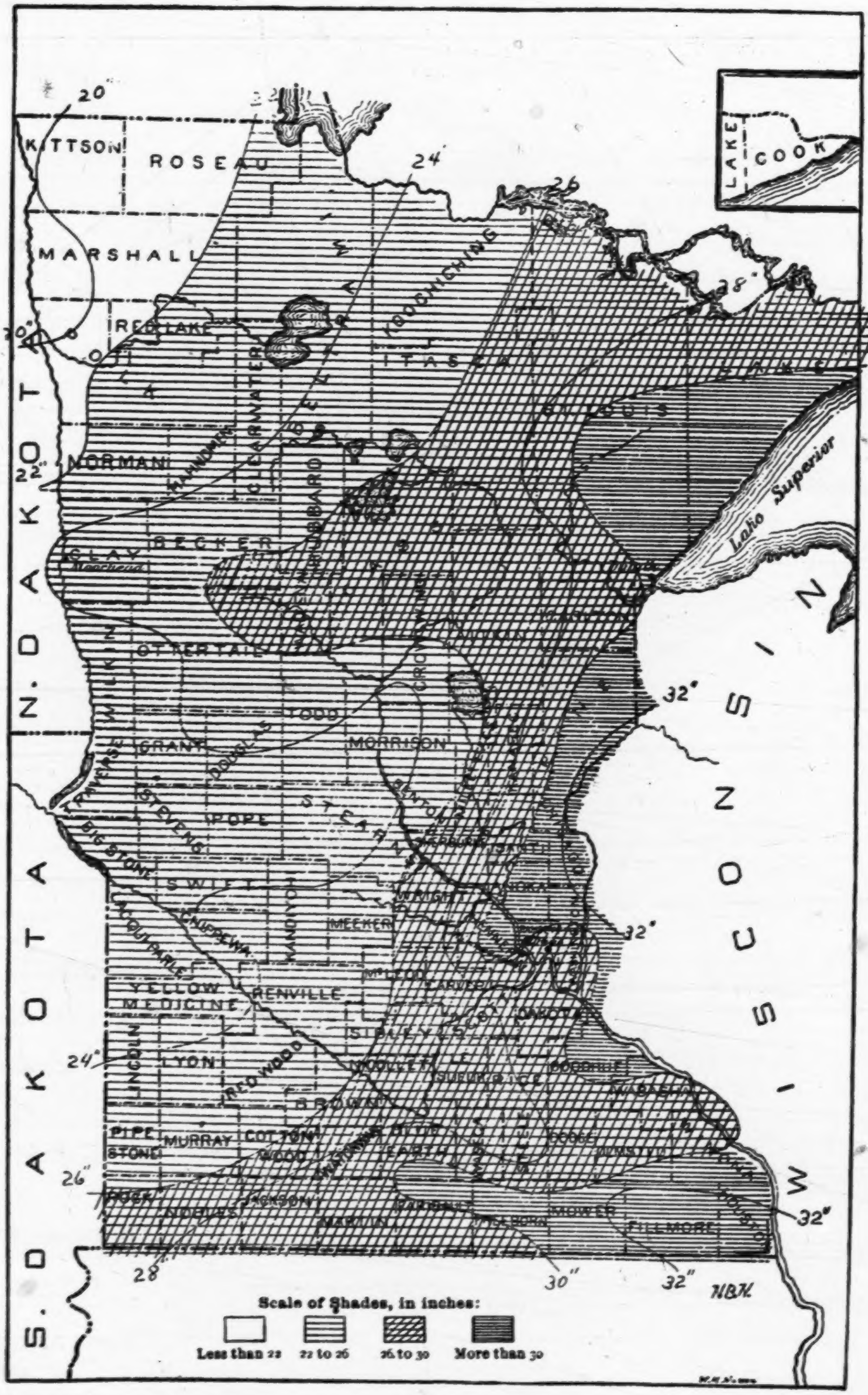
20"
22"
24"
26
28"
30"
32"
28
30"
32"
KITTSON
ROSEAU
MARSHALL
RED LAKE
LAKE
COOK
KOOCHICHING
ITASCA
ST. LOUIS
Lake Superior
NORMAN
MAHNOMEN
CLEARWATER
HUBBARD
BELTRAMI
CASS
CLAY
Moorhead
BECKER
WILKIN
OTTERTAIL
TODD
MORRISON
CROW WING
AITKIN
GRANT
DOUGLAS
TRAVERSE
STEVENS
POPE
STEARNS
BENTON
BIG STONE
SWIFT
KANDIYOHI
WRIGHT
ANOKA
MEEKER
CHIPPEWA
LAC QUI PARLE
YELLOW MEDICINE
RENVILLE
McLEOD
CARVER
DAKOTA
SIBLEY
SCOTT
LINCOLN
LYON
REDWOOD
BROWN
NICOLLET
RICE
GOODHUE
WABASHA
PIPESTONE
MURRAY
COTTONWOOD
WATONWAN
BLUE EARTH
DODGE
OLMSTED
WINONA
ROCK
NOBLES
JACKSON
MARTIN
FARIBAULT
FREEBORN
MOWER
FILLMORE
HOUSTON
N. DAKOTA
S. DAKOTA
WISCONSIN
NBK
Scale of Shades, in inches:
Less than 22
22 to 26
26 to 30
More than 30

Figure 25. Distribution of average annual precipitation for Minnesota by regions. (Weather Bureau)

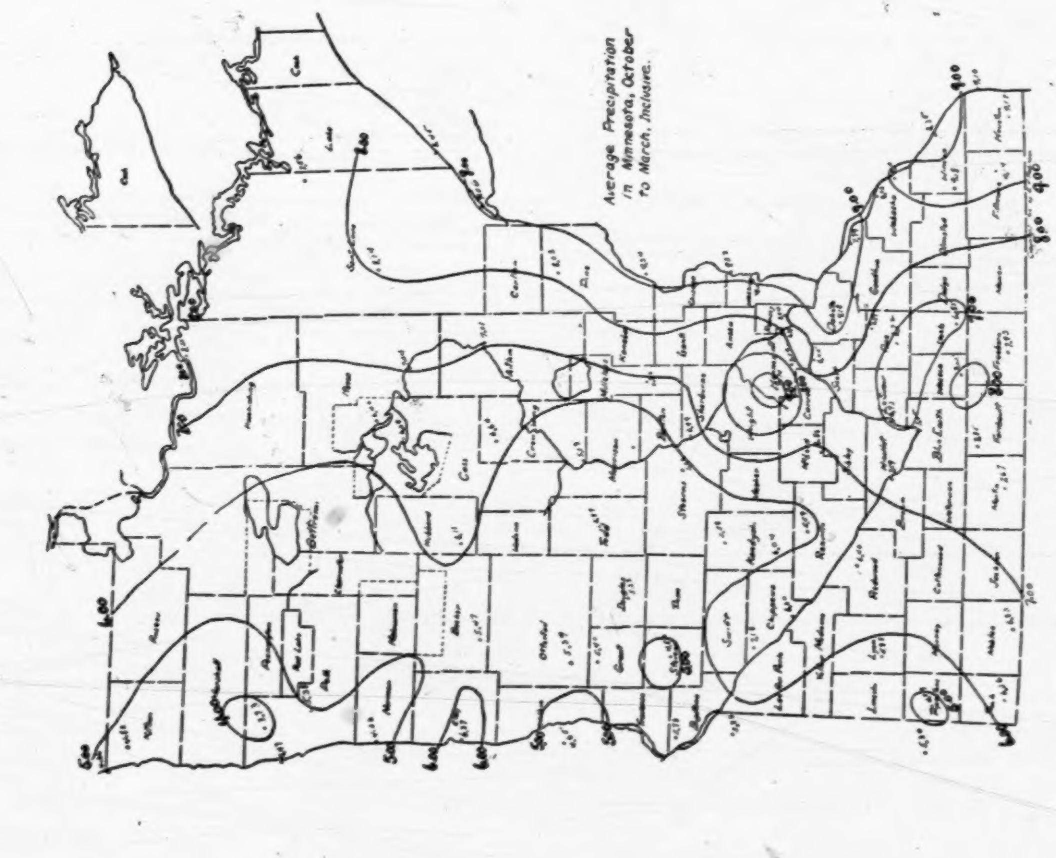
Average Precipitation in Minnesota, October to March, Inclusive.
5.00
6.00
7.00
8.00
9.00

Figure 26. Average precipitation in Minnesota, October to March, inclusive. (After Pursell)

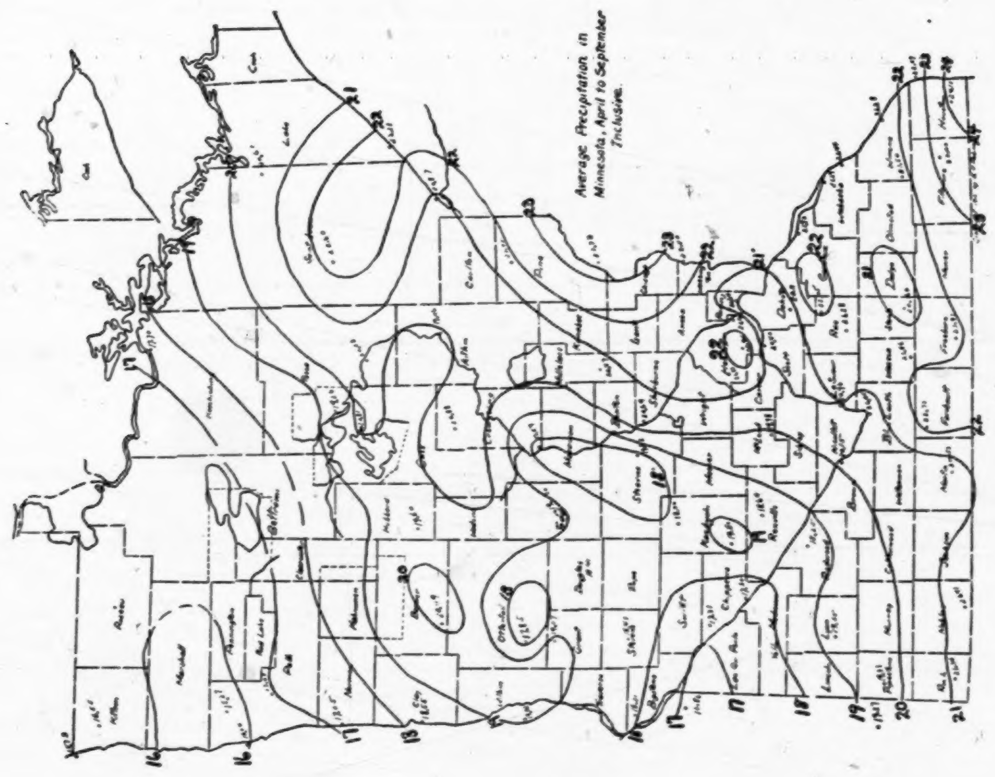
Average Precipitation in Minnesota, April to September Inclusive.
16
17
18
19
20
21
22
23
24

Figure 27. Average precipitation in Minnesota, April to September, inclusive. (After Pursell)

In like manner the precipitation during the growing season varies from 24 inches in the southeast to 16 inches in part of the Red River Valley (Fig. 27); while during the winter (October-March) the precipitation runs from nine inches in the southeastern corner and along the eastern edge of the State to five inches in the northwest. The relatively light snowfall is a factor in limiting certain fall-sown crops which need the protection afforded by a mantle of snow; but the amount which does fall is more effective than it is farther south, owing to the infrequency of thaws. For this reason fall-sown grains have been migrating northward for a number of years.

Soil and climate together determine the types of native vegetation. The joint effect of all the factors hitherto discussed is consequently shown, in a general way, by a "life zones" map; and this has the further advantage of showing the relation of the climatic zones in Minnesota to those of neighboring states.

It is worthy of note how all the life zones bend toward the north in the Great Plains region. This shifting of the zones, moreover, is strikingly illustrated in the western part of Minnesota. This fact largely explains the great development of wheat-growing in the Red River Valley, in a latitude where, on the Atlantic slope, little or no wheat is grown.

CHAPTER II

EARLY TRAVEL, TRADE, AND TRANSPORTATION

The French period

The first white men in Minnesota were Frenchmen who entered by way of the Great Lakes, and their motive was the fur trade. According to Radisson's account, Groseilliers and Radisson were possibly on the Mississippi above Hastings, in 1655, though this interpretation is uncertain; and were again somewhere in eastern Minnesota in 1659.[1] Just twenty years later, Du Lhut reached Mille Lacs from Lake Superior. The next year he came over the Bois Brulé-St. Croix route (Fig. 28) to the Mississippi, joining there Father Hennepin, who had just discovered and named the Falls of St. Anthony.[2] A few years later Perrot, coming by way of the Fox-Wisconsin route (Fig. 31), built a fort on the Mississippi. In 1793, after the revolt of the Fox Indians had closed this thoroughfare, Le Sueur came out by the Bois Brulé-St. Croix portage and established a trading post on Prairie Island below Hastings.[3] Having learned, as he believed, of the existence of copper on a tributary of the Minnesota, Le Sueur later returned to France, came out with the party which settled New Orleans, ascended the river, built a fort on the Blue Earth River, and secured there a cargo of bluish-green earth which he mistook for copper (1700).[4] In the first half of the eighteenth century, after an interval of withdrawal, there were again French forts and garrisons in Minnesota, both on Pigeon River, north of Lake Superior, and on the Mississippi near Frontenac.[5]

The French régime formally ended with the cession of the country west of the Mississippi to Spain, in 1762; and that east of the Mississippi to England, in 1763. There remained in Minnesota only a few French traders and a considerable number of half-breeds who generally intermarried again with Indians. The half-breed element was thus in rapid process of absorption by the Indian stock. Because of the dominance of the fur trade and the consequent wide scattering of the whites, there was no agriculture as a separate occupation, and no permanent settlement of French origin within the limits of Minnesota.

The English period

In 1766 appeared the first of the English explorers, Captain Jonathan Carver, who came out by the Fox-Wisconsin route and ascended the Minnesota River in search of a route to the Pacific.[6] The English also took up the fur trade with renewed vigor; and in the year of Carver's visit, ten years before the Declaration of Independence, there was at certain seasons a considerable rendezvous at Grand Portage,[7] some five miles west of the present international boundary on Lake Superior, where the canoe route started for Lake Winnipeg and beyond (Fig. 28). In these circumstances the monopoly claimed by the Hudson Bay Company, under a charter dating back to 1670, provoked resistance; and during the winter of 1783-1784 the Northwest Company was formed at Montreal, though it was not completely organized till 1787. The new company operated along the St. Lawrence and Great Lakes route, with its chief posts at Detroit, Mackinaw, La Pointe (near Ashland), Prairie du Chien, and Fond du Lac (Minnesota). From these stations it long continued, in spite of the American Revolution, to be the real government in the Northwest. A much-used route led up the St. Louis and East Savanna rivers over a portage[8] to the Prairie River and so to Sandy Lake and the Mississippi. This portage follows the former course of the upper St. Louis River when it flowed into the Mississippi. Owing to its strategic location, the chief factor of the Northwest Company at Fond du Lac and later (after 1794) at Sandy Lake, controlling the trade over this route, practically ruled all northern Minnesota. In 1805 Lieutenant Zebulon Montgomery Pike, of the American army, found the British flag still flying over the Northwest Company's posts in Minnesota;[9] and this condition only ceased in 1816, when Astor induced Congress to pass an act confining the Indian trade to American citizens.

The fur trade under the American régime

As a result of this law all posts south of the Canadian boundary eventually passed into the control of the American Fur Company. In 1821 the Northwest Company, thus driven to the wall, merged with the Hudson Bay Company. Meantime, Fort Crawford was built at Prairie du Chien in 1816, and in 1819 Fort Snelling was established on a high bluff commanding the junction of the Mississippi and Minnesota rivers.

Henceforth, the flag was different; but for almost another generation the old mode of life went on practically unchanged. Hunting, fishing, and the fur trade rather than farming continued to be the economic basis of life, and as a consequence the white population remained small and widely scattered. To a considerable extent, indeed, the French element, recruited from Canada where the French began to increase as they had never done under French rule, continued to predominate on the frontier. Thus J. B. Faribault, who settled for a time at Prairie du Chien and was almost the only trader unwilling to bear arms for England in 1812, subsequently established the first trading post at St. Peters (Mendota). His son, Alexander Faribault, in 1826 built a trading post on Cannon Lake, near the headwaters of Cannon River; and later (1844) transferred this post to the site of the city which now bears his name.[10] In like manner Joseph Renville, a half-breed who had fought against the United States in the War of 1812 and subsequently (1822) organized the short-lived Columbia Fur Company, in 1835 established a noted trading post on Lac qui Parle where he represented the American Fur Company.[11] In 1834, however, Henry H. Sibley settled at Mendota as a chief factor of the American Fur Company,[12] and for almost twenty years he remained easily the most powerful man in Minnesota, practically ruling a vast territory like a feudal lord. In 1843 Norman W. Kittson established a trading post at Pembina in the Red River Valley and later became the representative there of the Hudson Bay Company.[13] Other fur traders prominent in the early history of Minnesota were Joseph R. Brown, a drummer boy in the first detachment that came to Fort Snelling, who married a squaw and had trading posts at various points in the State;[14] William Morrison, who claimed to have found his way to Lake Itasca as early as 1804;[15] Allan Morrison, of Crow Wing; Ramsey Crooks, first agent in the northwest of the American Fur Company; Charles H. Oakes and Charles W. Borup, of La Pointe and (after 1849) of St. Paul. Henry M. Rice also came to Minnesota representing the Chouteau fur interests of St. Louis, at first the rival, then the successor, of the American Fur Company.[16] The intensely bitter campaign of 1850, which ended in Sibley's return to Congress as territorial delegate, resulted from this clash of business interests as well as the personal rivalry between Rice and Sibley.[16]

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[1] Radisson, *Voyages* (*Prince Society Publications*, 1885). See also Folwell, W. W., *History of Minnesota*, 9.

[2] Hennepin, Louis, *Description de la Louisiane nouvellement découverte, etc.* (1683); and *Journeys of La Salle and His Companions*, ed. by I. J. Cox (Trail Makers Series, New York, 1903-1905); in *Minn. Hist. Soc. Coll.* I, 17, 302, 314. On the St. Croix-Bois Brulé route, see Appendix to Shea's edition of Hennepin's *Louisiane*, 375.

[3] *Early Voyages up and down the Mississippi*, ed. by Shea (Albany 1861); in *Wis. Hist. Coll.* XVI, 149; *Minn. Hist. Soc. Coll.* II, 89, 200.

[4] *Wis. Hist. Coll.* XVI, 177-200; *Minn. Hist. Soc. Coll.* I, 17, 319; III, 1-12.

[5] *Jesuit Relations*, LV, 320; LXVI, 337.

[6] Carver, Jonathan, *Travels, etc.* (London 1781); in *Minn. Hist. Soc. Coll.* I, 349.

[7] *Minn. Hist. Soc. Coll.* IX, 9.

[8] Schoolcraft, H. R., *Narrative Journal of Travels . . . . in 1820* (Albany 1821), 209, 274.

[9] Pike, Zebulon, *Exploration of the Sources of the Mississippi* (Baltimore 1810); also *Exploratory Travels, etc* (London 1811); in *Minn. Hist. Soc. Coll.* I, 3 .

[10] *Minn. Hist. Soc. Coll.* III, 168; *Soil Survey of Rice County*, Bureau of Soils, Dept. of Agr.

American explorers and missionaries

The first important American explorer was Zebulon Pike, already mentioned, who set out from St. Louis in September, 1805 to explore the headwaters of the Mississippi.[17] He had twenty soldiers and ascended the river in a seventy-foot keel boat, propelled by oars and poles. After buying from the Indians a tract of land for a military reservation at the junction of the St. Croix and Mississippi, and another at the junction of the Minnesota and Mississippi, he portaged around St. Anthony Falls, proceeded up the river to the rapids below Little Falls, and then during the winter traveled by sled to Sandy Lake, Leech Lake, and Upper Cedar (Cass) Lake, which he believed to be the true source of the Mississippi. In 1820 Governor Cass, of Michigan, came up the Lakes and over the Savanna portage to Cass Lake, which he also reported as the source of the Mississippi.[18] In 1823 Major Long ascended the Minnesota, portaged to the Red River, and returned by way of Rainy River and Lake Superior.[19] An Italian named Beltrami, who had accompanied him part way, set out by way of Red Lake to find the source of the Mississippi. Going up a tributary of Red Lake, he portaged to Lake Julia, some six miles north of Lake Bemidji, which he apparently believed to be the true source both of the Red River and of the Mississippi.[20] In 1832 Henry R. Schoolcraft, who had accompanied Governor Cass in 1820, again came over the Savanna portage and finally reached a lake which he named Itasca.[21] In 1836 Joseph N. Nicollet, following up one of several creeks flowing into Lake Itasca, found three smaller lakes, the last of which he claimed to be the final source of the great river.[22]

In the meantime Protestant missionaries had appeared on the scene, the first at Leech Lake in 1833, among the Chippeways; the second in 1834 among the Sioux on the shore of Lake Calhoun, now included in Minneapolis. These pioneers were followed by numerous others in both the Chippeway and the Sioux territories.[23] It may be doubted whether either explorers or missionaries contributed directly to the development of agriculture; though the missionaries did try to teach the Indians how to farm, and there was a time, in the early fifties, when the Indians in some districts probably grew more corn than the whites.[24] However this may have been, there can be no doubt that the reports both of explorers and missionaries spread a knowledge of the country and its possibilities and thus indirectly prepared the way for the great immigration a few years later.[25] Such knowledge had not been previously disseminated by the fur traders, who did not want agricultural settlers, since their presence would tend to destroy the wilderness conditions necessary for the continued prosperity of the fur trade.

Early transportation routes by water

Until superseded by railroads, the principal routes remained substantially what they had been during the French and English periods; and most travel and trade went by water.

Between the Mississippi and the Red River the principal water route led up the Minnesota and over the portage at Browns Valley from Big Stone Lake into Lake Traverse.[26] Another went by way of the Crow Wing and Leaf rivers over a portage into Otter Tail Lake, this portage being the site of the former village of Ottertail. A third route led from Cass to Red Lake by way of Turtle and Red Lake rivers, going through the Lake Julia discovered by Beltrami.[28] From the Mississippi to Rainy River the usual course was from Lake Winnibigoshish into Big Fork River, over a mile portage connecting Cut-Foot-Sioux Lake, an affluent of Winnibigoshish, with Bowstring Lake.[27] From the Mississippi to Lake Superior there were two routes: the first connecting Sandy Lake and the St. Louis River by way of the Savanna portage as previously described; the second going through Wisconsin by way of the St. Croix and the Bois Brulé rivers.[28] Between Lake Superior and Lake Winnipeg the route by way of Grand Portage,[29] Pigeon and Rainy rivers remained in use until about 1812, when the Canadian government shifted the terminus from Grand Portage to Fort William on Canadian soil. At a later period that government also placed ox teams on the portages and steamboats on the lakes, in order more effectively to connect the St. Lawrence with the Winnipeg basin. This route remained in use until supplanted by the Canadian Pacific Railway. The Wisconsin-Fox route also continued to be followed between the Mississippi and Lake Michigan until superseded by the railway.

Canal and lake navigation

When Thomas Jefferson negotiated the Louisiana Purchase, he thought that it would be a thousand years before the region

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[11] *Minn. Hist. Soc. Coll.* I, 196 ff.

[12] *Ibid.*, VI, 267.

[13] Blakeley, Capt. Russell, *The Opening of the Red River of the North to Commerce;* in *Minn. Hist. Soc. Coll.* VIII, and Baker, *ut infra*, 20.

[14] *Minn. Hist. Soc. Coll.* I, 466-470; III, 201.

[15] *Ibid.*, I, 417; III, 247-248.

[16] Baker, J. H., *History of Transportation in Minnesota;* in *Minn. Hist. Soc. Coll.* IX, 13.

[17] Folwell, W. W., *History of Minnesota*, 105-106.

[18] Schoolcraft, H. R., *Narrative Journal of Travels . . . . in 1820* (Albany 1821); in *Minn. Hist. Soc. Coll.* I, 123.

[19] *Ibid.*, I, 124.

[20] Beltrami, G. C., *A Pilgrimage in Europe and America, etc.*, 2 vols. (London 1828); in *Minn. Hist. Soc. Coll.* II, 183.

[21] Schoolcraft, H. R., *Narrative of an Expedition . . . . to Itasca Lake, etc.* (New York 1834); also *Summary Narrative, etc.* (Philadelphia 1855); in *Minn. Hist. Soc. Coll.* I, 125,153.

[22] Nicollet, J. W., *Report Intended to Illustrate a Map of the Hydrographical Basin of the Upper Mississippi River* (Washington 1845); in *Minn. Hist. Soc. Coll.* I, 183.

[23] *Minn. Hist. Soc. Coll.* I, 84, 477; II, 120, 125, 126; VI, 117.

[24] Le Duc, *Minnesota Year Book* (1853), 26; Bond, *Minnesota and Its Resources* (New York 1853), 212-213.

[25] *Minn. Hist. Soc. Coll.* I, 191; III, 251.

[26] *Ibid.*, I, 470.

[27] *Ibid.*, VIII, 237.

[28] *Ibid.*, III, 246; VIII, 238; Appendix to *Journal Minn. House of Representatives*, 1857-1858, 54; Bond, *Minnesota and Its Resources*, 80; ch. III, note 2.

[29] *Minn. Hist. Soc. Coll.* IX, 9; Alex. MacKenzie, *Voyages*, pp. xlvii-xci; Thwaites, *Story of Wisconsin*, p. 132, note.

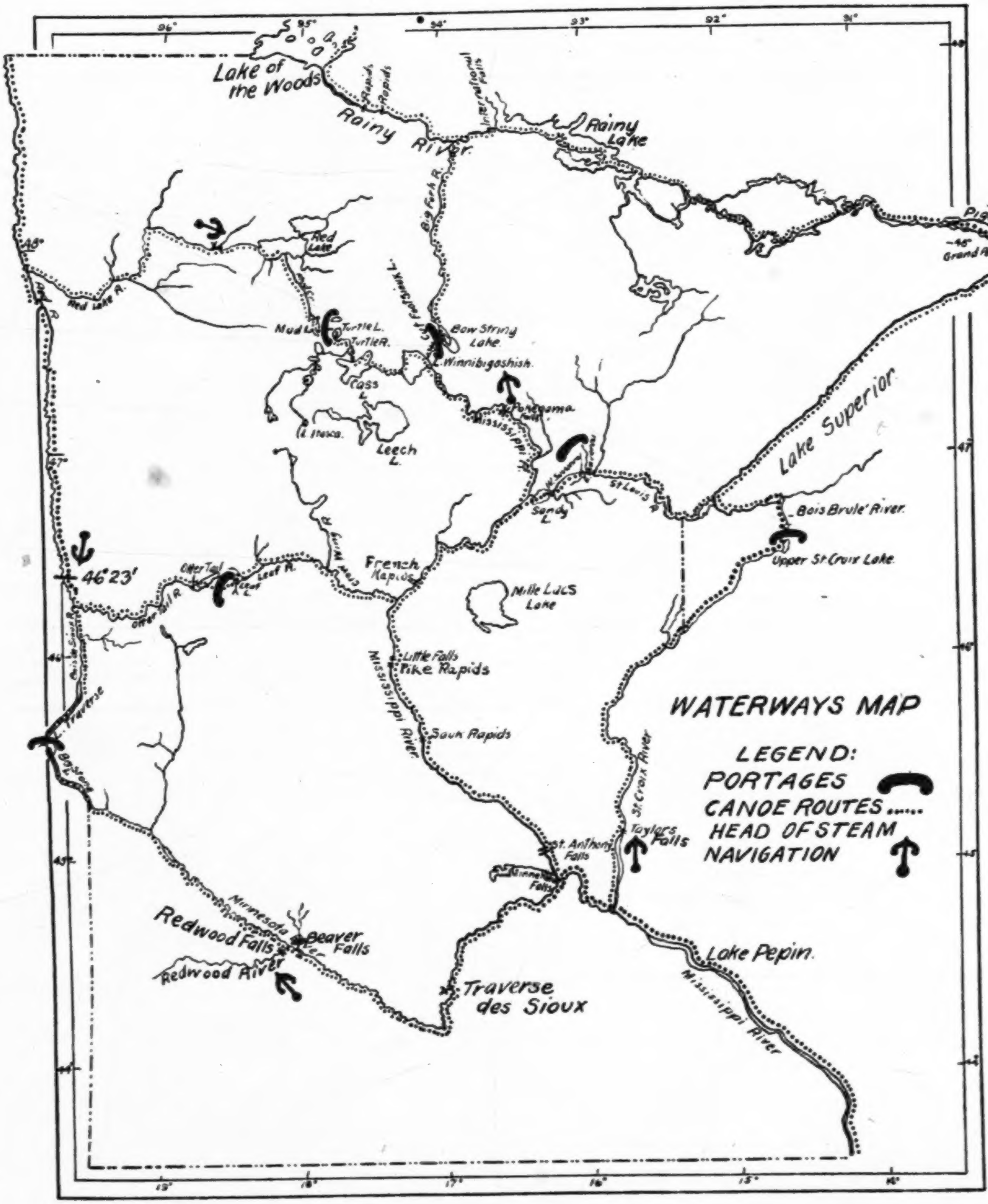
96°
95°
94°
93°
92°
91°
Lake of the Woods
Rapids
International Falls
Rainy River
Rainy Lake
Big Fork R.
Pigeon R.
48°
Grand Portage
Red Lake
Red Lake R.
Mud L.
Turtle L.
Turtle R.
Bow String Lake
L. Winnibigoshish
Cass L.
L. Itasca
Leech L.
Pokegama Falls
Mississippi R.
Lake Superior
47°
Sandy L.
St. Louis R.
Bois Brule' River
Upper St. Croix Lake
46°23'
Otter Tail L.
Leaf R.
Otter Tail R.
French Rapids
Mille Lacs Lake
Little Falls
Pike Rapids
Mississippi River
Sauk Rapids
Traverse
WATERWAYS MAP
LEGEND:
PORTAGES
CANOE ROUTES......
HEAD OF STEAM NAVIGATION
St. Croix River
Taylors Falls
St. Anthony Falls
Minnehaha Falls
Minnesota River
Redwood Falls
Beaver Falls
Redwood River
Lake Pepin
Traverse des Sioux
Mississippi River
45°
44°
19°
18°
17°
16°
15°
14°

Figure 28. Early water routes in Minnesota. (Head of steam navigation according to Appendix to House Journal, 1857-58).

north of the Ohio and east of the Mississippi could be peopled. Perhaps he was not so far wrong, reckoning as he necessarily did without steam or electricity. In any event, it is clear that while fur traders, explorers, and even lumbermen could travel in birch-bark canoes, a farming population, with women and children, domestic animals and agricultural implements, required more substantial means of transportation, both for themselves and their products. On this account the development of agriculture in Minnesota, as in other middle western states, depended in large measure on the provision of transportation facilities, not only within the State, but also farther east.

The Louisiana Purchase in 1803 opened the mouth of the Mississippi River to American shipping. The Erie Canal in 1825 linked the Great Lakes with the navigable Hudson. The next year steam navigation began on Lake Michigan; though the first steamship reached Chicago as late as 1832, and the first shipment of grain to the east from that port, consisting of seventy-eight bushels, occurred in 1838.[30] In 1833 the Ohio Canal connected Lake Erie with the Ohio River; in 1848 the Illinois and Michigan Canal provided a waterway from Lake Michigan to the Illinois River and the Mississippi; and in 1856 the Portage Canal, between the Fox and Wisconsin rivers, was completed, thus opening that ancient water route to vessels and cargoes too heavy to be portaged. Finally, the Sault Ste. Marie Canal in 1855 extended the head of navigation on the Great Lakes to Duluth, bringing all the shores of Lake Superior into direct connection with Buffalo. This canal, however, remained without material effect on agriculture in Minnesota until Lake Superior was connected by rail with the Mississippi and the Red River some fifteen years later.

Steam navigation on the Mississippi River

In the meantime steam navigation had begun on the Ohio River in 1811, and on the upper Mississippi in 1823, when the *Virginia* came up to Fort Snelling with a cargo of government stores. Until 1838, when the first cession of Indian lands occurred, there were no white settlements, aside from the fort and a few trading posts, the chief being at St. Peters (Mendota). This was consequently the destination of practically all vessels which came above Prairie du Chien. The usual cargoes were government stores and supplies for the fur traders, including whiskey. The passengers comprised mainly troops and fur traders, besides some tourists who usually drove across the prairie a few miles to see the Falls of St. Anthony while the vessel was unloading. Return cargo, except furs taken on at Mendota, was generally lacking.

So far as recorded, the landings at the fort were as follows:[31]

TABLE 1

YEARS	LANDINGS	YEARS	LANDINGS	YEARS	LANDING
1823	2	1829	?	1835	?
1824	?	1830	?	1836	5
1825	4	1831	?	1837	?
1826	10	1832	5	1838	9
1827	?	1833	?	1839	15
1828	?	1834	?		

The average for the eight years recorded suggests that up to 1838 probably five landings a year were about normal. What caused the large number in 1826 does not appear from the records; but the increase in 1838 and 1839 was evidently connected with the Indian cession and the beginning of immigration. Four landings are also recorded on the St. Croix in 1838 and one in St. Paul in 1839. Unfortunately no reliable figures are available for later years on the St. Croix, nor for any other year prior to 1844 in St. Paul. The first cabin in St. Paul was built in 1838, before the treaty of cession had been ratified; the first considerable immigration occurred in 1840, when all squatters were ejected from the Fort Snelling reservation; and the first store in St. Paul was opened in 1842, being followed by two more in 1843 and three others in 1844.[32] Between 1839 and 1844 commerce at St. Paul must have increased with extraordinary rapidity, for the steamboat arrivals in 1844 already numbered forty-one. The arrivals thereafter, as reported in the Sixth Report of the Minnesota Commissioner of Statistics for 1874, were as follows:[33]

TABLE 2

YEARS	LANDINGS	YEARS	LANDINGS	YEARS	LANDINGS
1844	41	1855	560	1865	829
1845	48	1856	857	1866	777
1846	24	1857	1,025	1867	883
1847	47	1858	1,068	1868	835
1848	63	1859	808	1869	792
1849	95	1860	775	1870	760
1850	104	1861	937	1871	553
1851	119	1862	1,015	1872	346
1852	171	1863	743	1873	No report
1853	200	1864	631	1874	218
1854	256				

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[30] *Report of Chicago Board of Trade; Bul. 15, Ill. Geol. Survey*, 71; Dopp, *Development of Wisconsin* (*Bul. Am. Geog. Soc.*, August, 1913).

[31] *Minn. Hist. Soc. Coll.* VIII, 376-377.

[32] Neill, Rev. E. D., in *Minn. Hist. Soc. Coll.* II, 139-140; Elfelt, C. E., *Early Trade and Traders in St. Paul* (*Minn. Hist. Soc. Coll.* IX, 163).

[33] *Minn. Ex. Doc.* 1874, No. 10, 98; based on report of the Deputy Collector of Customs at St. Paul. Lists differing somewhat and presumably less reliable are given in Merrick, *Old Times on the Upper Mississippi*, 295; and Blakeley, *Advent of Commerce in Minnesota* (*Minn. Hist. Soc. Coll.* VIII, 413).

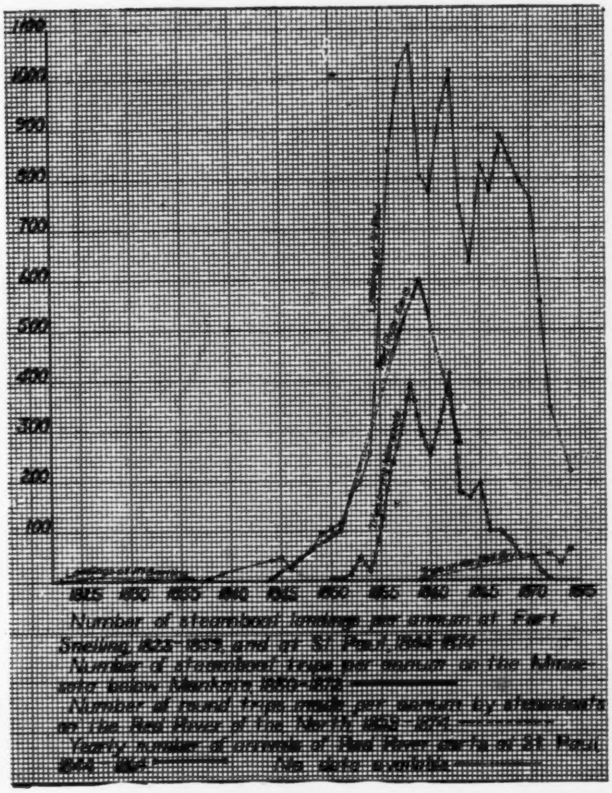

Figure 29. Rise and decline of steamboat and Red River cart traffic in Minnesota, as shown by the number arriving.

The striking character of these changes may be seen more clearly from a diagram based upon the preceding table.

It will be noted that the greatest number of boats arrived in 1858, though the number of different boats was only sixty-two as against ninety-nine in 1857, when the season of navigation happened to be shorter.[34] Evidently by 1858 a decline had already set in, due at first to the effect of the panic of 1857, later to the Civil War, and still later to railroad competition, railroad control of shipping terminals, and the refusal of railroads to pro-rate with water routes.

Steam navigation above the Falls of St. Anthony was inaugurated in 1850 with the *Governor Ramsey*, which was followed later by other boats; and it continued until the railroad began to parallel the river between 1863 and 1866. This stretch of navigable water extended as a rule only to Sauk Rapids above St. Cloud; though at high water boats were sometimes run through and operated on the upper river as far as Pokegama Falls near Grand Rapids. This happened in the case of the *North Star* in 1858. Owing to the relatively shallow water and short haul, steam navigation above St. Anthony was always limited compared to that below St. Paul.

Steam navigation on the Minnesota River

Steamboating on the Minnesota, aside from the lower stretch near Fort Snelling, began in 1850 with a series of excursions which for the first time made known the general character of that valley. The next year, by the treaty of Traverse des Sioux, the Indian title to most of the land in the Minnesota Valley was extinguished. This was soon followed by a tide of immigration, whose fluctuations are reflected to some extent in the following table,[35] though the stage of the water and the length of the season also had much influence.

TABLE 3

YEARS	STEAMBOAT TRIPS (BELOW MANKATO)	YEARS	STEAMBOAT TRIPS (BELOW MANKATO)	YEARS	STEAMBOAT TRIPS (BELOW MANKATO)
1850	4	1858	394	1866	100
1851	3	1859	300	1867	100
1852	13	1860	250	1868	80
1853	49	1861	318	1869	50
1854	30	1862	413	1870	50
1855	109	1863	177	1871	20
1856	207	1864	166	1872	1
1857	292	1865	195		

The maximum navigation on the Minnesota was evidently from 1857 to 1862 inclusive. There was also considerable freighting by keel boats and other crafts without steam power; and toward the end of the period there was more navigation (not covered by the table) above Mankato than below it, where railways were already available. The sudden and complete collapse of steam navigation on the Minnesota was due in part to the very cause which had produced it, namely, the increase of agriculture, which exposed large areas of loose soil to rapid erosion and thus filled up the river with shoals and sand bars; and in part to the advance of the railway up the valley from St. Paul, reaching Mankato in 1869 and New Ulm in 1871.

Steam navigation on the Red River

The first steamboat was launched on the Red River in 1859. Funds for its construction had been obtained in part by public subscription in St. Paul, the purpose being to secure the trade of the Fort Garry (Winnipeg) region. Other boats followed, and the Hudson Bay Company, represented by Norman W. Kittson, eventually secured control. The period of most active navigation in the Red River was during the years following 1871, when the Northern Pacific Railroad had reached Moorhead, the usual head of navigation, while the river north of that point was not yet paralleled by railroads.[36] During this period there were four or five boats on the river, which made from thirty-five to sixty-five round trips, depending largely on the stage of the water and length of the season.[37]

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[34] *Ibid.*, VIII, 402-405.
[35] Hughes, *Steamboating on the Minnesota River* (*Minn. Hist. Soc. Coll.* X, 1, 158-160).
[36] Blakeley, *Opening of the Red River to Commerce* (*Minn. Hist. Soc. Coll.* VIII; Bell, *Early Steamboating on the Minnesota and Red Rivers* (*Minn. Hist. Soc. Coll.* IX).

The Red River boats were an undoubted factor in promoting immigration and the development of agriculture in the Red River Valley, though owing to the earlier establishment of agriculture by the Selkirk settlers, more immigrants seem to have gone into Canada by this route than stopped off in the Minnesota part of the valley.[38]

Indian trails in Minnesota

When the whites first reached Minnesota, both the prairie and the forested district were traversed by a network of Indian trails, though relatively few trails, and those chiefly warpaths, connected the territories occupied by Sioux and Ojibways. The trail paralleling the Mississippi was evidently based on a buffalo trace, since this was the route of the annual buffalo migration. The same thing was true in the Red River Valley; and it is probable, though it can not now be proved in detail, owing to the early obliteration of the trails, that the same relation existed in other cases. The Indian trails in turn gave general direction to most of the early roads; for example, the trail from Mendota via Northfield, Faribault, and Waseca to Spirit Lake, Iowa, was adopted for one of the military roads authorized in 1850.[39]

The sledge and and the Red River cart

Considerable use was doubtless made of the Indian trails by the early fur traders, packing goods on their backs. In general, however, the first forms of land transportation used by whites in Minnesota were the sledge in winter and the Red River cart in summer. For persons and light goods, extended use was made of dog sledges, the usual rate of travel being from thirty to forty miles a day.[40] For heavy haulage, horse and ox sleds were employed, the route often following the course of a river.[41] The freeze-up, indeed, which transforms marsh and river into solid and level roads, greatly facilitated logging operations and thus hastened the cutting away of the forests in all the states bordering the Great Lakes; and it has been almost equally important in relation to agriculture. Without the solid roads formed by frost for three or four months each year it would not have been possible to operate farms at any considerable distance from the railroad; unless, indeed, something better than earth roads were provided.

The Red River cart was a rough, two-wheeled affair, made entirely of wood and drawn by oxen. In appearance it was practically a duplicate, and it was no doubt in fact a lineal descendant, of the type of cart represented on Trajan's column at Rome. The French voyageurs, on reaching the prairies, simply reverted to the primitive type of cart which was at that time more or less used in France, as it still is in Spain, Russia, and the Balkan region. The first Red River cart is said to have been made in 1801.[42] Red River carts were brought into Minnesota by refugees from the Selkirk colony, perhaps as early as 1821; certainly they were a familiar object by 1839, when it is recorded that forty or fifty cartloads of emigrants from the Selkirk settlement were camped at Fort Snelling.[43] Originally the carts simply followed the sandy ridges, marking ancient beaches of Lake Agassiz, through the Red River Valley, usually on the Dakota side, and then crossing between lakes Traverse and Big Stone, headed for Traverse des Sioux[44] (Fig. 28). In 1844, however, after Norman W. Kittson had established his trading post at Pembina, Hallett cut out a trail running farther north, from the mouth of the Crow Wing River to the northern end of Otter Tail Lake, and then into the open valley, paralleling largely the old canoe route between the Mississippi and the Red River (Fig. 28). The distance by this route from Pembina to St. Paul was said to be 448 miles and the time by cart thirty to forty days.[45] The stage route laid out in 1859, following an intermediate course along the edge of the hardwood belt (Fig. 8), went by way of Sauk Rapids, Osakis, Alexandria, Pomme de Terre (near Ashby), and Breckenridge.[46] It will be noted that the Northern Pacific Railroad, between Brainerd and Perham, takes the general direction of the Hallett trail; and that, as far as Pomme de Terre, the Great Northern follows very closely the stage route of 1859.

In 1844 regular trains of Red River carts began to reach St. Paul, bringing chiefly buffalo tongues, buffalo robes, pemmican, and furs, and taking back general supplies.[47] This trade grew rapidly, especially after the Hudson Bay Company in 1858 and 1859 made the Mississippi rather than Hudson Bay its chief route to market and base of supplies. It was estimated that during 1869, 2,500 Red River carts passed up and down the valley.[48]

The reported arrivals of Red River carts at St. Paul were as follows:[49]

TABLE 4

YEARS	NUMBER OF CARTS	YEARS	NUMBER OF CARTS	YEARS	NUMBER OF CARTS
1844	6	1851	102	1858	600
1845	?	1852	?	1859	?
1846	?	1853	?	1860	?
1847	?	1854	?	1861	?
1848	?	1855	?	1862	?
1849	?	1856	?	1863	275
1850	?	1857	500	1864	?

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[37] *Minn. Statistics*, VI Report (*Minn. Ex. Doc.* 1874, I, No. 10, 102).
[38] *Minn. Statistics*, IV Report (*Minn. Ex. Doc.* 1872, 729).
[39] Law of July 18, 1850 (32 Cong., 1 sess. Doc., 12, 7; *Sen. Doc.*, 33 Cong., 2 sess. II, 346.)
[40] *Minn. Hist. Soc. Coll.* IX, 21; *Minnesota Pioneer*, Jan. 3 and 29, 1852.
[41] Seymour, *Sketches of Minnesota* (1849), 148-150.
[42] Bell, C. N., *The Selkirk Settlement*, 30.
[43] *Minn. Hist. Soc. Coll.* II, 138.
[44] *Minnesota in Three Centuries*, 311.
[45] Schultz, John, *The Old Crow Wing Trail* (*Minn. Hist. Soc. Coll.* IX, 20). *Journal Minn. House of Rep.*, 1859-60, 2 sess., appendix D, 27, 36.
[46] *Minn. Hist. Soc. Coll.* VIII, 45; *Journal, Minn. House of Rep.* 2 sess., 1859-60, appendix D.
[47] *Minn. Hist. Soc. Coll.* IX, 20.
[48] Coffin, *The Seat of Empire* (1870), 80-81.
[49] Williams, *History of St. Paul*, 306.

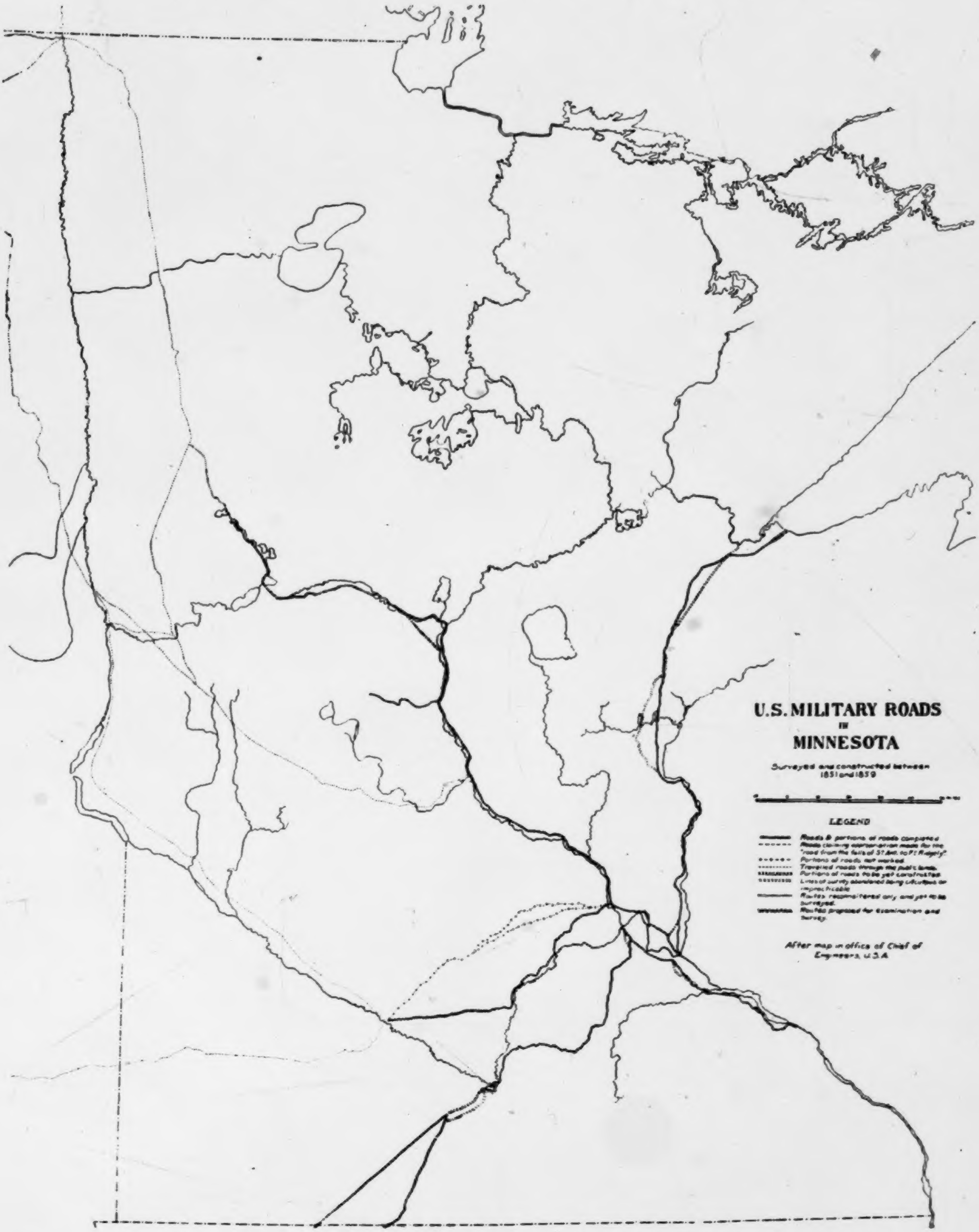
U.S. MILITARY ROADS
IN
MINNESOTA
Surveyed and constructed between 1851 and 1859
miles
LEGEND
Roads & portions of roads completed
Roads claiming appropriation made for the "road from the falls of St Ant. to Ft Ripley"
Portions of roads not worked
Traveled roads through the public lands
Portions of roads to be yet constructed
Lines of survey abandoned being difficult or impracticable
Routes reconnoitered only and yet to be surveyed
Routes proposed for examination and survey
After map in office of Chief of Engineers, U.S.A.

Figure 30. U. S. military roads in Minnesota, 1851-1859. (From map in office of Chief of Engineers, U. S. A.)

After 1867, when the St. Paul and Pacific Railway (Great Northern) had reached St. Cloud, the Red River cart began to stop wherever the railway terminus happened to be; and after the Northern Pacific was completed to Moorhead in 1871, the picturesque Red River carts disappeared from Minnesota. For at least half a century they had played a considerable rôle in transportation; though on the whole serving rather the interests of buffalo hunting and the fur trade than of agriculture, because only goods of considerable value in proportion to their bulk could stand the cost of transportation by cart for such great distances.

Early wagon roads in Minnesota

Settlement in Minnesota, aside from the outlying Pembina region, began in the district between Fort Snelling and the St. Croix, of which St. Paul is the geographical center. The first wagon roads were consequently laid out from St. Paul to Fort Snelling, Mendota, Stillwater, and Willow River (Hudson), Wisconsin.

Another road ran across the prairie to St. Anthony, and then up the east bank of the Mississippi to Sauk Rapids and Crow Wing. Crossing the river at these points, two trails (rather than roads) continued northwest to the Red River Valley. Such was the situation as to roads in 1849, when regular stage lines for passengers and (in 1851) express traffic were established between the principal settlements.[50] In January, 1850 a road for use during the winter was opened along the east bank of the Mississippi from St. Paul through Prairie du Chien to Galena.[51] This was the first means of transportation between Minnesota and the

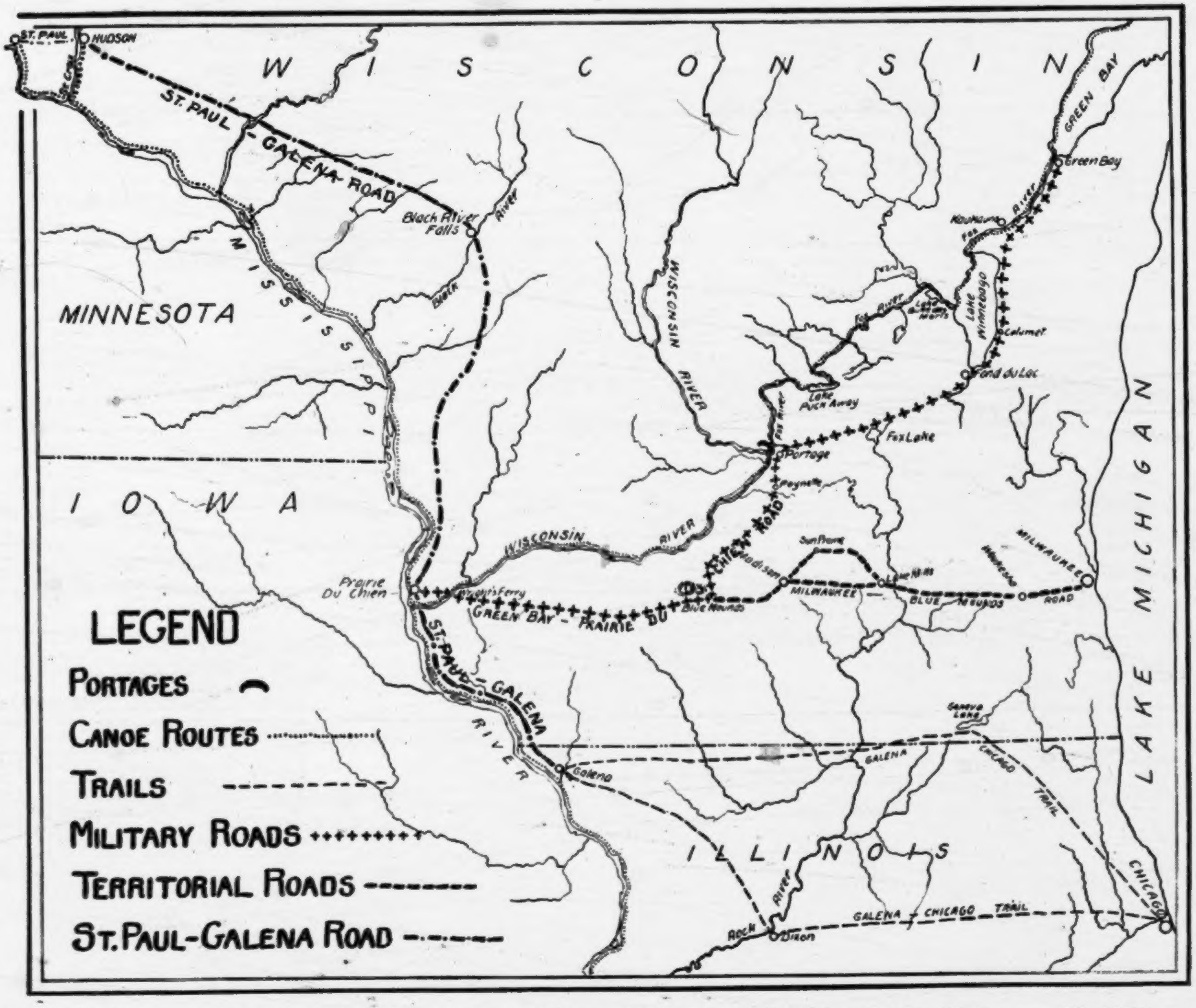
WISCONSIN
MINNESOTA
IOWA
ILLINOIS
LAKE MICHIGAN
St. Paul
Hudson
ST. PAUL - GALENA ROAD
Black River Falls
Black River
MISSISSIPPI
Prairie Du Chien
ST. PAUL - GALENA
RIVER
Galena
WISCONSIN RIVER
Portage
Fox River
Lake Puck Away
Lake Buttes des Morts
Lake Winnebago
Kaukauna
Fox River
Green Bay
GREEN BAY
Calumet
Fond du Lac
Fox Lake
Poynette
CHICAGO ROAD
Sun Prairie
Madison
Lake Mills
Blue Mounds
GREEN BAY - PRAIRIE DU CHIEN
MILWAUKEE - BLUE MOUNDS ROAD
Milwaukee
MILWAUKEE
Geneva Lake
GALENA
CHICAGO TRAIL
GALENA - CHICAGO TRAIL
Rock River
Dixon
CHICAGO
LEGEND
PORTAGES
CANOE ROUTES
TRAILS
MILITARY ROADS
TERRITORIAL ROADS
ST. PAUL-GALENA ROAD

Figure 31. Early overland routes from the Mississippi to Lake Michigan. (After Thwaites, letter cited; Merrick, 206; Seymour, 215; 26 Congress 1 Session, *Senate Document* 140; *Wisconsin Historical Collections,* 6:369, 7:372; Minnesota House of Representatives, *Journal,* App. 51, 1857-58; *Minnesota in Three Centuries,* 2:198, 4:309) The route of the St. Paul-Galena road is definitely stated to have been by way of Black River Falls, but in other respects its course is somewhat uncertain.

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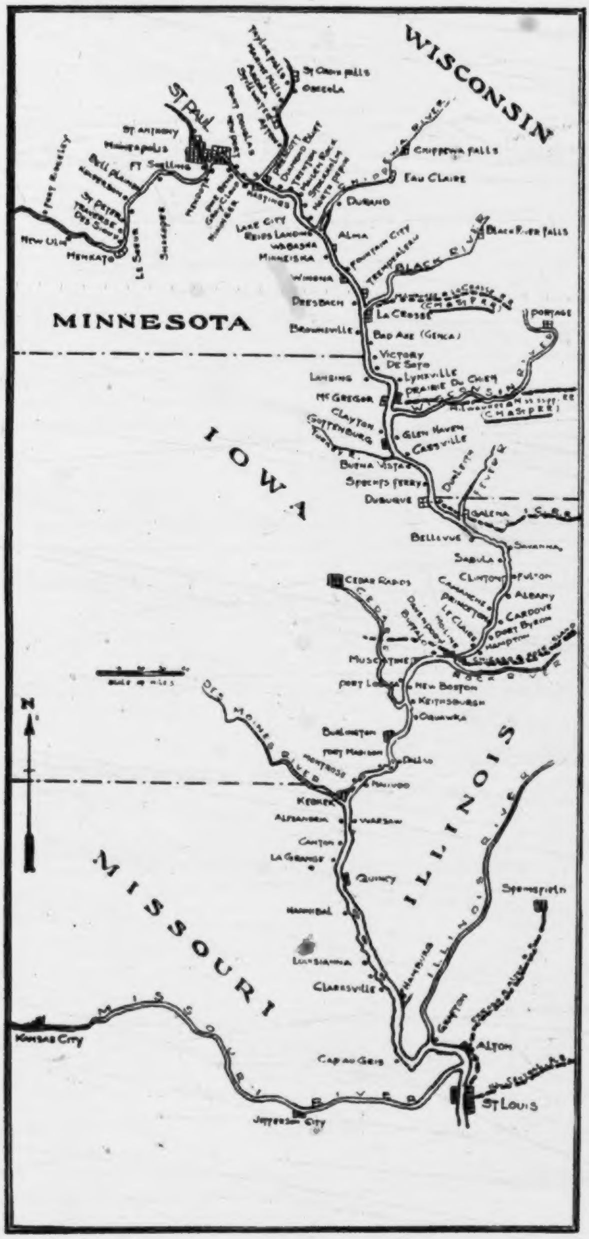
[50] Baker, J. H., *History of Transportation in Minnesota* (*Minn. Hist. Soc. Coll.* IX, 1-34).
[51] *Minnesota Pioneer,* Jan. 2, 1850.

outside world during the season of closed navigation. In July, 1850 Congress authorized a military road from Mendota along the west bank of the Mississippi; and in 1853 a winter stage line was established over this route to Dubuque.[52] In the same act another road was approved to extend south from Mendota through Northfield and Faribault into Iowa. A military road was also opened in 1856 from St. Paul to Fond du Lac and Superior.[53] During the years 1853-1857 the second military road authorized in the law of 1850 was also pushed southward from Mendota toward the mouth of the Big Sioux River (Sioux City).[54] On all of these roads stage lines were operated until the coming of the railroads, which in practically every case closely paralleled these highways.


WISCONSIN
MINNESOTA
IOWA
ILLINOIS
MISSOURI
ST PAUL
St Croix falls
Osceola
St Anthony
Minneapolis
Ft Snelling
New Ulm
Mankato
St Peter
Traverse Des Sioux
Le Sueur
Shakopee
Hastings
Lake City
Reads Landing
Wabasha
Minneiska
Winona
Dresbach
Brownsville
Chippewa Falls
Eau Claire
Durand
Alma
Fountain City
Trempealeau
Black River
Black River falls
La Crosse
Bad Axe (Genoa)
Victory
De Soto
Lansing
Lynxville
Prairie du Chien
Portage
McGregor
Clayton
Guttenburg
Glen Haven
Cassville
Buena Vista
Specht's Ferry
Dubuque
Galena
Bellevue
Savanna
Sabula
Clinton
Fulton
Albany
Cordova
Port Byron
Hampton
Cedar Rapids
Le Claire
Princeton
Camanche
Davenport
Buffalo
Moline
Muscatine
Rock River
Port Louisa
New Boston
Keithsburg
Oquawka
Burlington
Fort Madison
Montrose
Dallas
Nauvoo
Des Moines River
Keokuk
Alexandria
Warsaw
Canton
La Grange
Quincy
Hannibal
Louisiana
Clarksville
Illinois River
Springfield
Grafton
Alton
Cap au Gris
Kansas City
Missouri River
Jefferson City
St Louis
N

Map of the Mississippi between St. Louis and St. Paul

Figure 32. Sketch map of the Mississippi showing railroads and river ports in 1860. (After Merrick)

Outlets by land from the Mississippi Valley

The National Road, completed in 1818 across the mountains to the upper Ohio, was second only to the Erie Canal (1825) in its influence on the peopling of the West. To it was due in no small measure the rapid development of the Ohio Valley, and of St. Louis which long remained the chief base of supplies for the upper Mississippi country. Owing to the opening of the Wisconsin-Illinois lead district, which began in 1822, Galena, the metropolis of this district, became the usual transhipment point for both passengers and freight. As a result, well-marked, if not always well-made, roads ran from Galena to Milwaukee and Chicago even before the Black Hawk War in 1832, the trip requiring about eight days.[55] In 1833 a trail was blazed from Green Bay to Prairie du Chien, paralleling the old French canoe route; and in 1835 a United States military road was built over this trail.[56] In 1834, Michigan territory had authorized (but not built) a road from Milwaukee via Platte Mounds to the Mississippi. In accordance with this plan a territorial road was laid out in 1837 from Milwaukee to Madison, joining the military road near Blue Mounds in the western part of Dane County.[57] Provision was also made in 1838 for a military road from Milwaukee to the Mississippi opposite Dubuque, but the appropriation was apparently spent on the territorial road east of Madison.[58] For some twenty years thereafter, until 1854, practically all the exports of the upper Mississippi, except such as took the water route to New Orleans, were divided between these routes to Lake Michigan. The typical freight wagon used on these roads was a ponderous "prairie schooner" drawn by six to a dozen yoke of oxen.[59] Such outfits were used in bringing the lead of the southwestern district to Milwaukee for shipment east. There were also stages of various types for passenger traffic, some merely open wagons.[60] The time by stage was from eight to ten days, depending on the condition of the roads; and by 1849 there were daily stages from Milwaukee and Chicago to Galena.[61] Transportation was indeed cheaper to St. Louis, but the best market for the product of the upper valley and likewise the source from which settlers were drawn, was the North Atlantic section. As a result Galena vied with St. Louis as a supply and outfitting station for the upper valley; and it easily took the first place as a source of loanable capital, until the establishment of direct railroad connection between Chicago and St. Paul.

Outlets by rail from the Mississippi Valley

The first railway from tide-water reached the Great Lakes at Buffalo in 1842, Chicago in 1852, and the Mississippi at Rock Island early in 1854. This was followed by a grand excursion up the river to St. Paul, a public reception and speech-making, in which former President Fillmore and George Bancroft, the historian, took part.[62] This celebration proved effective in turning public attention to Minnesota and was one factor in starting a great stream of immigration to the territory.

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[52] Baker, *loc. cit.*, 19.
[53] Soil Survey of Carlton County (Bureau of Soils, U. S. Dept. of Agr.).
[54] Baker, *loc. cit.*, 19, 32 Cong., 1 sess., Doc. 12, 7.
[55] Seymour, *Sketches of Minnesota* (1849), 275; Bond, *Minnesota and Its Resources*, 178; Ill. Geol. Survey, *Bul. 15*, 89; *Bul. Am. Geog. Soc.* (Aug., 1913), 593.
[56] Map in *Sen. Doc. 140*, 26 Cong., 1 sess. (1839); Lapham, Increase, *Wisconsin* (1844); Matteson, C. G., *History of Wisconsin*, 171-172.
[57] *Wis. Hist. Coll.* VI, 369, 372.
[58] Letter from Reuben G. Thwaites, under date of Sept. 20, 1913, modifying the account of roads given in his *Wisconsin*, 250-251.
[59] Thwaites, *Wisconsin* (Am. Commonwealth Series).
[60] Bond, *loc. cit.*, 173-178.
[61] Seymour, *loc. cit.*, 275.

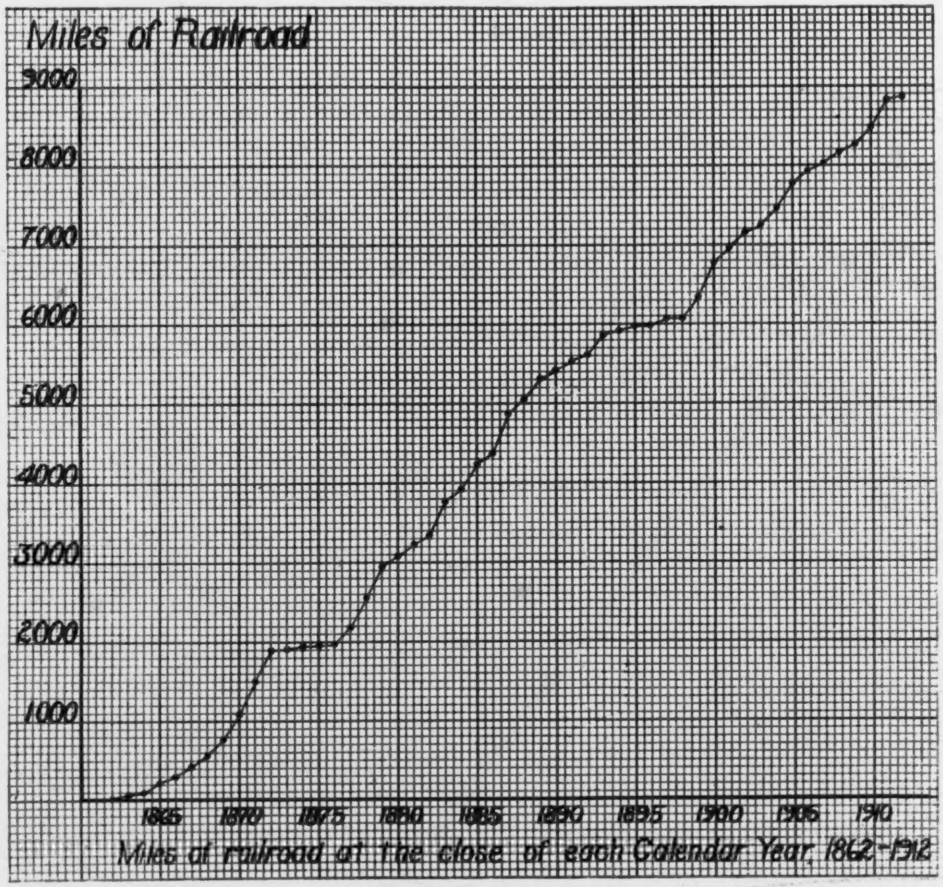

Figure 33. Progress of railroad construction in Minnesota, 1862-1912. (Data from Report of Railroad and Warehouse Commission, 1912)

In 1855 the Galena and Western Union (Illinois Central) Railroad, passing through Galena which lies some miles up a tributary, reached the Mississippi at Dunleith (East Dubuque).[63] This road enabled Galena to hold its position in the river trade, which had been threatened by the Rock Island road, and it further increased the flood of immigration to Minnesota. On April 15, 1857 the Milwaukee and Mississippi Railroad was completed to the river at Prairie du Chien; and immediately this ancient seat of the fur trade took on new life and became the principal transfer point for Minnesota exports. A third stream of immigration also began to reach the river at this point.[64] These were the bonanza days of steamboating on the river, when a vessel launched in the spring not infrequently cleared two hundred per cent on its cost during the first season.[65] Finally, on October 14, 1858 the Milwaukee and La Crosse Railroad reached the river, and thereafter La Crosse began to divide the export of Minnesota products with Prairie du Chien.[66] By that time, however, the after-effect of the panic of 1857, which was especially severe in Minnesota, had caused a great shrinkage in the volume of immigration, so that relatively few settlers came by way of La Crosse until the railways had been so extended that it became possible (1867) to reach St. Paul by rail through Prairie du Chien and Owatonna.

Early railroads in Minnesota

In Minnesota the earlier public discussions were all about roads, but about 1852 interest shifted to railroads. By lavish land grants and bonuses, including state bonds, the attempt was made to stimulate railroad building ahead of the demands of population. In the main, this attempt brought only disappointment, debt, and disgrace.[67] The first pieces of railroads actually

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[62] Folwell, *loc. cit.*, 121.
[63] *Minn. Hist. Soc. Coll.* VIII, 402.
[64] *Milwaukee Sentinel*, April 16, 1857; *Minn. Hist. Soc. Coll.* VIII, 402-405.
[65] Merrick, George B., *Old Times on the Upper Mississippi* (Cleveland 1909).
[66] Paxson, *The Railroads of the Old Northwest* (*Trans. Wis. Acad. of Sciences*, XVII).
[67] Message of Governor Ramsey, Jan. 9, 1861 (*Minn. Ex. Doc.* 1860, 11-12).

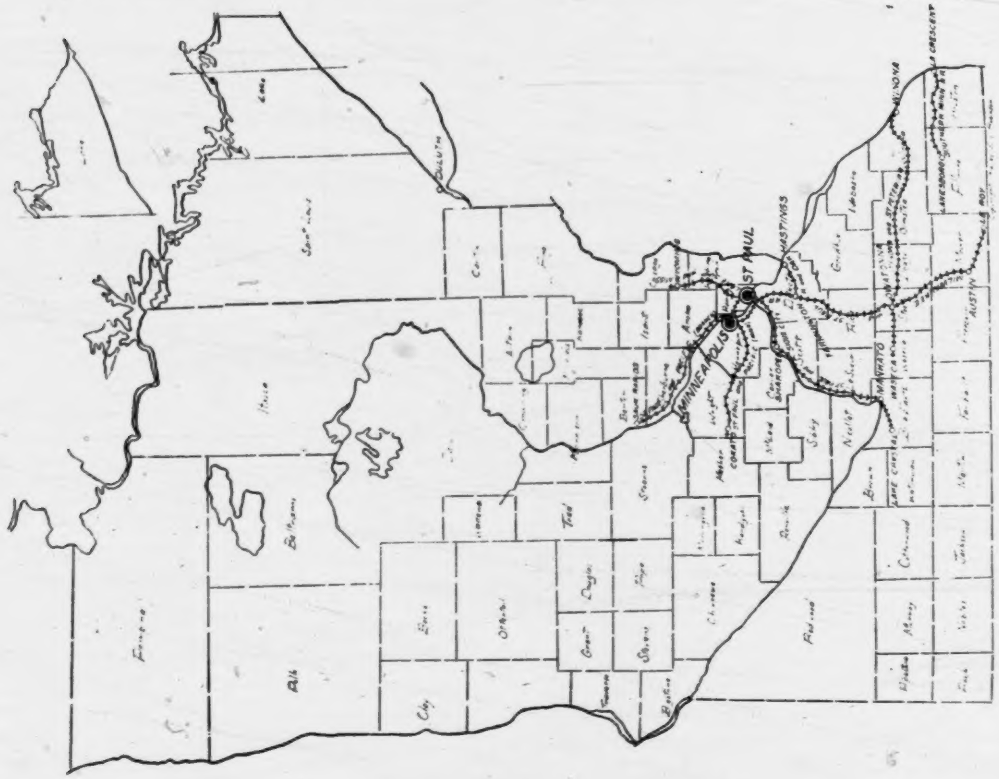
DULUTH
ST PAUL
MINNEAPOLIS
HASTINGS
MANKATO
AUSTIN
WINONA
LA CRESCENT
Polk
Becker
Otter Tail
Douglas
Todd
Stearns
Grant
Stevens
Chippewa
Renville
Sibley
Nicollet
Brown
Redwood
Cottonwood
Murray
Jackson
Freeborn
Goodhue
Wabasha
Itasca
Beltrami
St. Louis
Lake
Carlton
Pine

Figure 34. Railroads in operation, January 1, 1869. (Data from Report of the Railroad Commissioner, 1871, p. 40; 1873, map; 1879, p. 15; *Minn. Statistics*, 1869, p. 116-121; 1870, p. 162-168)

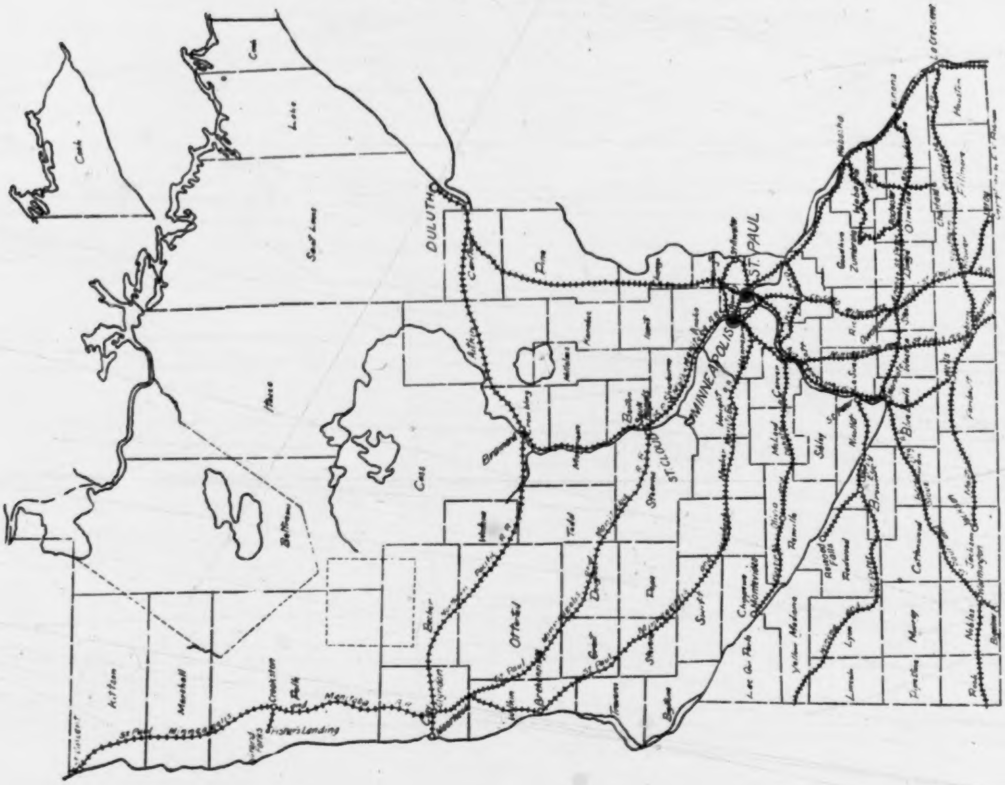
DULUTH
ST. PAUL
MINNEAPOLIS
ST. CLOUD
WINONA
LA CRESCENT
Crookston
Fisher's Landing
Moorhead
Brainerd
Cook
Lake
Saint Louis
Itasca
Cass
Beltrami
Marshall
Kittson
Polk
Becker
Otter Tail
Douglas
Todd
Stearns
Pope
Swift
Chippewa
Lac Qui Parle
Yellow Medicine
Renville
Redwood
Lyon
Lincoln
Pipestone
Murray
Cottonwood
Nobles
Rock
Jackson
Fillmore
Houston
Olmsted
Goodhue
Rice
Sibley
McLeod
Meeker
Wright
Anoka
Isanti
Pine
Carlton
St. Paul, Minneapolis & Manitoba R.R.
Northern Pacific R.R.

Figure 35. Railroads in operation, June 30, 1879. (Data from Report of Railroad Commissioner, 1873, map; 1879, p. 9)

completed in Minnesota were from St. Paul to St. Anthony, and from Winona westward about ten miles, both in 1862.[68] During the next few years the St. Paul and Pacific (Great Northern) was pushed on up the east bank of the Mississippi, following the road toward Sauk Rapids; the Winona road was continued westward; a parallel line was begun through the southern tier of counties, starting just opposite La Crosse and following the Root River Valley; the Minnesota Valley (Omaha) line was undertaken up the Minnesota Valley; another road (main line of St. Paul and Pacific) was begun toward the west from Minneapolis; a sixth line (Minnesota Central) was pushed southward from Mendota; the St. Paul and Duluth (Northern Pacific) was begun from St. Paul northward toward the head of Lake Superior; finally from the Mississippi, opposite the mouth of the St. Croix, another railroad (Hastings and Dakota) was begun toward the west, not touching either St. Paul or Minneapolis. The line from Mendota through Northfield followed in a general way the old Indian warpath, largely along the divide between the Minnesota and the Mississippi,[69] which Congress in 1850 had designated as the route of a military road. In 1866 this line crossed the Winona road at Owatonna. During the next summer the Milwaukee and St. Paul Company, having acquired and completed the Minnesota Central to McGregor, Iowa, installed a pontoon bridge to connect with the Milwaukee and Mississippi road at Prairie du Chien, establishing thus in November, 1867 the first through railroad route from St. Paul to the Great Lakes and the East.[70] These eight roads or portions of roads were the only ones constructed prior to the crop season of 1869, which is reported in the census of 1870 (Fig. 34).

During the prosperous years preceding the panic of 1873, railroad building in Minnesota as elsewhere progressed with giant strides. In 1870 railroad connection was established between St. Paul and the head of Lake Superior, following in a general way the military road opened in 1856. In 1871 the St. Paul and Pacific (main line) arrived at Breckenridge[71] and the Northern Pacific, building west from Duluth, reached Moorhead, the head of navigation on the Red River. The same year saw the establishment of direct rail connection between St. Paul and Chicago by way of Tomah, Wisconsin. In 1872 the Minnesota Valley Railroad reached the Missouri River at Sioux City, while the Winona (Northwestern) line penetrated to the western boundary of the State.[72] In the meantime the St. Paul and Pacific, besides uniting the upper Red River Valley directly with Minneapolis, had constructed important pieces of track which were later (1878) to become the nucleus of the Great Northern system.

Thus, in the space of ten years altogether, and for the most part within five years, the dependence of the State on Red River carts, stage lines, and river navigation for intercourse with the outside world came to an end, and the way was opened for the rapid settlement and agricultural development of Minnesota.

[68] Message of Governor Ramsey, Jan. 7, 1863 (*Minn. Ex. Doc.* 1862, 22-23).

[69] *Journal Minn. House of Rep.* 1857-58, appendix, 51.

[70] McClung, J. W., *Minnesota as It Is in 1870*, 133. Letter under date of Nov. 3, 1913, from W. H. Norris, attorney of Chicago, Milwaukee & St. Paul Railway at Minneapolis.

[71] Williams, *loc. cit.*, 405; *Report of Railroad Commissioner*, 1872, 7-17.

[72] Message of Governor Marshall, Jan. 2, 1870 (*Minn. Ex. Doc.* 1869, 14); Message of Governor Austin, Jan. 5, 1871 (*Minn. Ex. Doc.* 1870, 23); Second Annual Report of Commissioner of Statistics (*Minn. Ex. Doc.* 1870, 1050-1052); Message of Governor Austin, Jan. 4, 1872 (*Minn. Ex. Doc.* 1871, 1, 16); Second Annual Report of Railroad Commissioner (*Minn. Ex. Doc.* 1872, 1, 133, 169, 341).

CHAPTER III

SETTLEMENT AND DEVELOPMENT OF PIONEER AGRICULTURE, 1838-1860

Indian cessions in Minnesota

The Indians continued to hold title to all land in Minnesota, aside from the military reservation, until 1838. In that year Congress ratified a treaty, negotiated in 1837, by which the United States acquired title to the district between the St. Croix and the Mississippi, as far north as the mouth of the Crow Wing River.

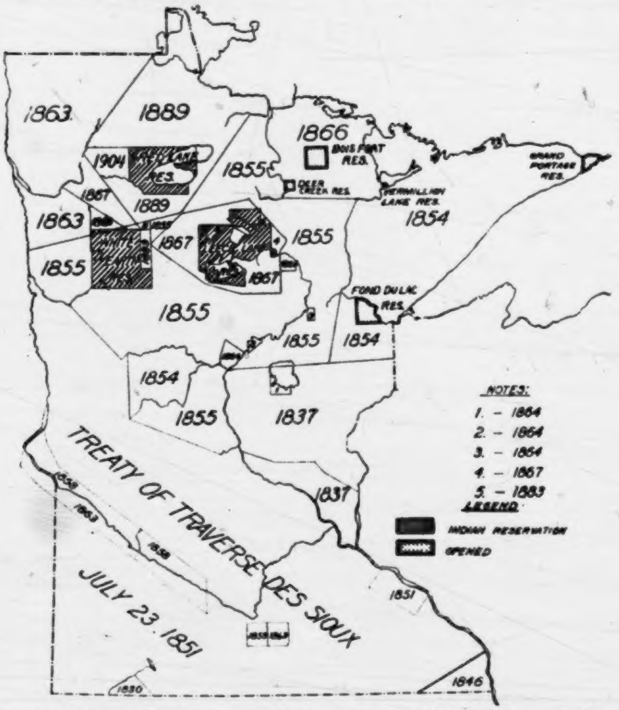

Figure 36. Extent and dates of Indian cessions with present reservations in Minnesota. (After Report of Bureau of Ethnology, 1899, and 1913 map by Office of Indian Affairs.)

This cession was relatively small and confined in the main to the forested region, the southern portion of it bearing hardwood, while the northern extended into the pineries. Moreover, the survey was delayed so that not until August 14, 1848, could title be obtained to any land in Minnesota. On that date, at the land office at St. Croix Falls, 3,326 acres were sold at $1.25 an acre, including the town sites of St. Paul, Stillwater, and St. Anthony.[1]

It will be noted that the cession of 1838 did not extend west of the Mississippi. All of southeastern and southern Minnesota, including the prairie section, remained Indian country, jealously guarded by the Sioux, until the treaties of Traverse des Sioux and Mendota in 1851. As a result, the advance of settlement was necessarily discontinuous, passing by the southeastern district and spreading from the so-called "delta" between the St. Croix and Mississippi rivers.

Beginnings of the lumber industry in Minnesota

Prior to the great migration of 1854-1857 furs and lumber furnished the economic motives which brought people to Minnesota. It was the desire of lumbermen to get at the Minnesota pineries which led to the cession of 1838; and the principal effect of this cession was the development of lumbering in Minnesota.

The first lumber mill in Minnesota was erected by the soldiers at the Falls of St. Anthony in 1821 to saw lumber for Fort Snelling, using logs cut on Rum River. Two years later a gristmill was also built to grind wheat grown on the military reservation.[2] These mills, however, were only operated spasmodically and ceased operation as government mills before either lumbering or agriculture had been established in Minnesota on a commercial basis.

In Minnesota, as previously in Wisconsin and Michigan, the magnificent forests of white and Norway pine attracted lumbermen from northern New England, and especially from Maine, who brought with them the experience and methods developed under substantially similar climatic conditions. The lumber industry, therefore, advanced with great rapidity after 1838 so that by 1850 it rivaled the fur trade as the dominant interest of the territory.

From 1822 on, repeated attempts had been made by private parties to cut logs, especially on the St. Croix; but these attempts had been frustrated, largely by the vigilance and firmness of Major Taliaferro, the Indian agent at Fort Snelling.[3] As soon as the treaty of 1837 was negotiated and before it had been ratified, logging for private account began on the St. Croix. This was during the autumn. Eleven years later, in 1848, logging also commenced on the Rum River, which heads in Mille Lacs and enters the Mississippi not far above the Falls of St. Anthony.[4] During these intervening years it will be remembered that individuals could secure no title to land in Minnesota. Under the Preëmption Act a man could, indeed, occupy land and claim the right to purchase it at a fixed price, when surveyed. This was the method employed for water-power sites and town lots. In general, however, the lack of title did not greatly hamper the development of lumbering, since it was the prevalent idea that whatever belonged to the government belonged to the people, not merely in a collective sense, but also individually; or as one of the early St. Croix lumbermen expressed it, "as citizens inheriting an interest in the government."[5] From this it was inferred that every citizen had a perfect right to cut timber on government land, and that any attempt on the part of the government to prevent it, or to collect payment for such cutting, was a tyrannical procedure. This peculiar logic, confusing collective and individual rights, doubtless has much to do with the almost insuperable difficulty still encountered by the government in protecting, not only forests, but grass lands, minerals, and all other natural resources from depredations by men who, in other respects, are often good citizens.

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[1] Williams, J. F., *History of St. Paul*, 183-185; *Minn. Hist. Soc. Coll.* II, 133, 134.
[2] *Ibid.*, X, pt. 2, 635.
[3] *Ibid.*, II, 107, 118, 131, 132.
[4] Stanchfield, Daniel, *Pioneer Lumbering on the Upper Mississippi* (*Ibid.*, IX, 329).
[5] *Ibid.*, IX, 296.

The first logs cut on the St. Croix were used in building mills at St. Croix Falls (1838) and Marine Mills (1839). Other mills were also erected at Stillwater (1843), Osceola, Wisconsin (1845), for which logs were largely cut on the Minnesota side, Lakeland (1848), and Arcola (1848). The first lumber placed on the market came from the Marine mill during the summer of 1839. Many (perhaps a third) of the logs cut on the St. Croix and some from the upper Mississippi, were rafted down the river to mills at Rock Island, Moline, and other towns as far south as St. Louis. In the early days much of the sawed lumber was also made up into rafts and taken to market by river.[6] The first private mill in Minnesota on the Mississippi began work in 1848 at St. Anthony (now East Minneapolis), which had been laid out the preceding year.[7]

Around these various mills villages quickly grew up, which were the first distinctively American settlements in Minnesota. The lumber industry thus built up many towns on the Mississippi and its tributaries, both in Minnesota and farther south. Moreover, the abundance and consequent cheapness of lumber played an important part in the rapid development of agriculture, as soon as transportation facilities became available, especially in the prairie district toward the south and west.

The settlement of Minnesota

At the census of 1840 the only part of Minnesota open to white settlement was the district between the St. Croix and the Mississippi, which formed a part of St. Croix County, Wisconsin. This county also included all of Wisconsin west of a line from the mouth of Porcupine River, which enters Lake Pepin, to Lake Superior.

The population of the county, aside from Indians, was 809, according to the census of 1840 (Appendix, Table I). How many of these lived in Minnesota it is, of course, impossible to say; but they comprised, aside from trappers and fur traders, chiefly lumbermen arrived on the St. Croix since the cession of 1837-1838. This number presumably did not include the little group (25 in 1837) around the trading post at Mendota, the oldest settlement in Minnesota; or the squatters on the Fort Snelling reservation; or the scattered traders along the Cannon, Minnesota, and other rivers, since all of these lived west of the Mississippi.

According to the census of 1840 (Appendix, Table I), there were three sawmills, employing 77 men, and seven general stores, in St. Croix County. There were also 90 men reported in connection with "forest products," meaning apparently trappers and fur traders. The value of skins and furs was given as $43,000. The fisheries, evidently on Lake Superior, occupied 127 men, the product being 4,282 barrels of pickled fish and 1,500 gallons of fish oil. There were only 815 head of live stock of all kinds, including swine and poultry. More than half (434) were cattle, probably work oxen about the lumber camps; though the value of dairy products was given as $220. The yield of crops was 9,031 bushels, nearly all being potatoes (8,014 bushels) and corn (606 bushels).

From these figures it is evident that agriculture, as an independent occupation, did not exist in Minnesota in 1840, at least in the region east of the Mississippi which was covered by the census.

Beginnings of agriculture in Minnesota

Stock-raising and farming were carried on to a limited extent about some of the important trading posts. Thus, Governor Cass in 1820 found an enclosed garden of about four acres, largely planted with potatoes, at the Sandy Lake post;[8] and Governor Sibley declared that Joseph Renville was the first stock-raiser in Minnesota, since he had owned "sheep by the hundreds and cattle by the score" at Lac qui Parle more than twenty-five years prior to 1856.[9] Agriculture was also practised more or less about the forts, missionary stations, and Indian agencies, notably at Lake Calhoun, Red Lake, and Long Prairie.[10] The lumbermen likewise at times found it expedient not only to cut wild hay, but also to plant potatoes, corn, and occasionally oats, for use in their logging camps the following winter.[11] Such incidental agriculture evidently accounted for the farm products reported from St. Croix County at the census of 1840.

Curiously enough, the first permanent settlers who sought to live by agriculture in Minnesota came from the wilderness to the north, being refugees from the Selkirk settlement in the Red River Valley of Canada. The first agricultural settlers reached that district in 1812, by way of Hudson Bay and the Nelson River. Until 1821 the settlement was distracted by war between the Hudson Bay and the Northwest companies; later, notably in 1826, came disastrous floods; and then followed plagues of grasshoppers. In 1821 about 166 Swiss, mostly French-speaking, joined the colony, only to find conditions very different from what they had expected. As a result, five families found their way to Fort Snelling that same autumn, thirteen families came in 1823, and more year by year, every disaster being the signal for a fresh exodus. Thus, after the flood of 1826 came Abram Perret (Perry), Joseph Rondo, Benjamin and Pierre Gervais, Louis Massie, and others, most of whom eventually settled in St. Paul. In 1831 it is recorded that about twenty arrived, and, in 1839, forty or fifty cartloads.[12] Altogether, this immigration is estimated at 500, down to 1836, and 200 more from 1836 to 1842; though half or more went down the river to Galena, St. Louis, or Vevay, Indiana.[13] In addition, there was a considerable settlement of half-breeds from the old fur posts on the Red River around Pembina, which was originally supposed to be on Canadian soil. These, however, practised agriculture only incidentally, their main reliance being buffalo-hunting.[14]

The first Selkirk refugees were permitted to settle, build houses, and establish farms on the Fort Snelling reservation. In 1837 there were 82 persons, mostly Swiss, in this settlement, and they had about 200 head of horses and cattle. In addition, there were 25 at Mendota and 50 at other trading posts in the immediate vicinity. On May 6, 1840, some two years after the opening of the region east of the Mississippi to settlement, all squatters were ejected from the reservation. Some of them settled on the site of St. Paul, at that time a place without a name; and in 1844 one of these (B. Gervais) founded Little Canada, an agricultural colony nine miles north of St. Paul.[15] This has remained a French community to the present day. In the meantime, about 1841, the first American farmers had settled at Red Rock, on the river several miles below St. Paul, and at Cottage Grove prairie (the Prairie Settlement), not far above the junction of the Mississippi and the St. Croix. According to General Sibley, Joseph Haskell and James S. Norris, both settlers in the Cottage Grove district, were "the first farmers who made Minnesota their home; and who demonstrated that our lands are equal to any others in the west for the production of cereals."[16]

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[6] *Ibid.*, IX, 317.

[7] Stanchfield, Daniel, *Pioneer Lumbering on the Upper Mississippi* (*Ibid.*, IX, 329).

[8] Le Duc, W. G., *Minnesota Year Book for 1851*, 29.

[9] Annual Address before the Historical Society in 1856 (*Minn. Hist. Soc. Coll.* I, 466).

[10] *Journal Minn. House of Rep.*, 1857-58, 47; Le Duc, W. G., *Minnesota Year Book for 1851*, 28, 42; Bond, J. W., *Minnesota and Its Resources*, 213; *Minn. Hist. Soc. Coll.* II, 124.

[11] Bond, *ut supra*, 86.

[12] *Minn. Hist. Soc. Coll.* II, 124, 138; VI, 88-89.

[13] Williams, J. F., *History of St. Paul*, 42; *Minnesota in Three Centuries*, II, 76.

[14] *Journal Minn. House of Rep.*, 1857-58, appendix, 79.

The census of 1849

On June 1, 1849, the organization of the Territory of Minnesota was formally proclaimed, and in accordance with the provisions of the territorial constitution, a census of the inhabitants was ordered, as of June 11, 1849. The territory included not only the present state, but also all of the Dakotas east of the Missouri and White Earth rivers. For lack of other officials, the enumeration was made by the sheriff of St. Croix County—the only organized county in the territory. Indians were supposed to be excluded, but half-breeds were included. Judging from the population reported west of the Mississippi, where white settlement was confined to traders and missionaries, and from various oral traditions, it would seem that the census was considerably padded.[17] Even the troops and other persons in the forts were all included. As officially reported, there were 3,067 males and 1,713 females, a total of 4,780 persons, in the territory (Appendix, Table II). It may, however, be doubted whether the actual population, including half-breeds living apart from their tribes, reached 2,500; and it has been estimated that the white population, exclusive of mixed bloods, did not exceed 1,000.[18] According to the census there were on June 11, 3,740 persons within the present boundaries of Minnesota, counting the Pembina settlement as in Dakota; or 4,057, as estimated by the Minnesota Commissioner of Statistics.[19] Of this number 2,879 were found in the ceded district east of the Mississippi, including 211 in the Lake St. Croix precinct and an uncertain number, not greater than 194 (shown by the 1850 census) in Little Canada. The number in these two districts, where agriculture predominated, was thus under 400.

Minnesota according to the census of 1850

The census of 1850 gives the population of June 1 of that year; but the agricultural returns necessarily represent the crops of the 1849 growing season (Appendix, Table III). The same relation to crop seasons also obtains as to subsequent censuses.

The territorial legislature at its first session in 1849 had divided the territory into nine counties, of which only three—Washington, Ramsey, and Benton—comprising the ceded land east of the Mississippi, were organized. The population reported in the territory as a whole was 6,077; an apparent increase during the year of 1,297 persons or 27 per cent. Using the corrected figures for 1849, the increase appears as about 3,500 or 140 per cent. The population within the area of the future state was subsequently estimated as 5,354.[20] The three organized counties included the majority (3,701) of the population, most of the others being scattered along the Mississippi and Red rivers, approximately as shown on the accompanying map.

The census of 1850 apparently does not distinguish consistently between country and town population, though the three largest villages, St. Paul, Stillwater, and St. Anthony, had together 2,271 inhabitants, or 37 per cent of the total population (Appendix, Table III, note 6). However, since places under 2,500 are counted as rural, and St. Paul contained only 1,112 people, the map shows at once the total population and the rural population as of June 1, 1850. The nativity of the inhabitants (Table III, items 8-11) indicates that while the half-breed element was undoubtedly large among persons of Minnesota and Canadian birth,[21] there were at least 3,000 or 50 per cent of whites from other states and foreign countries. This was the element which was beginning to furnish an agricultural population.

The number of men reported as farmers was 340; but this number included 77 in St. Paul,[22] and must have included others elsewhere, who were either in transit or for other reasons not actually farming. The total land in farms was 28,881 acres, the improved land 5,035 acres, and the number of separate farms reported was 157. This would give on the average 183.95 acres, including 32.07 acres of improved (plowed or enclosed) land, per farm. It is, however, evident that the 36 Itasca "farms" of 2.5 acres each probably represent a wild guess, since there were only 23 dwellings in that county. In any event, if these clearings existed, they were mere gardens and therefore not to be averaged with genuine farms. Deducting these 36 parcels in Itasca, there remain 121 farms containing 28,781 acres in all and 4,935 acres improved. On this basis the average farm contained 238 acres, including about 40 acres of improved land. The larger farms were found in Ramsey, Benton, and Washington, where real farming had begun; and the largest of all (339 acres) in Washington, which had 58 per cent of the improved land (Fig. 38). Outside of these three counties, the farms evidently consisted for the most part of small fields, gardens, and pastures about the trading, military, and missionary posts.

The live stock comprised chiefly horses and work oxen, though some milch cows were reported, especially in Washington and Pembina counties. The considerable value of live stock in Pembina, together with the insignificant acreage of improved land there, indicates a hunting and pastoral, rather than agricultural, mode of life.

The crop season of 1849 was fairly cool and extraordinarily wet (Figs. 69, 70). According to the census the yield of all field crops was 81,911 bushels (Table III, item 37). Using the same unit as in later years (1 dot = 10,000 bushels), the entire oat crop would be represented by three dots, the potato and corn crops each by two dots, and the joint yield of all crops in the entire territory by eight dots. The bulk of the crops naturally came from Washington and Ramsey counties. Wabashaw (as then

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[15] Le Duc, W. G., *Minnesota Year Book for 1851*, 31.

[16] Address in 1856 (*Minn. Hist. Soc. Coll.* I, 478); Williams, J. F., *History of St. Paul*, 115-116; Bond, J. W., *Minnesota and Its Resources*, 57.

[17] Williams, J. F., *History of St. Paul*, 228, note.

[18] *Ibid.*, 207.

[19] *Second Annual Report of the Commissioner of Statistics for 1860-61*, 97.

[20] *Ibid.*, 97.

[21] In 1860 the Indian population (civilized), which consisted chiefly of mixed bloods, was reported as 2,369; and the Minnesota Commissioner of Statistics at the time thought this number should be increased to 3,475. (*Ibid.*, 107-108; and *Preliminary Report on VIII Census*, 266.)

[22] Le Duc, W. G., *Minnesota Year Book for 1851*, 26. This is one of several statements attributed to the census by contemporary writers, but not found in De Bow's edition of the census.

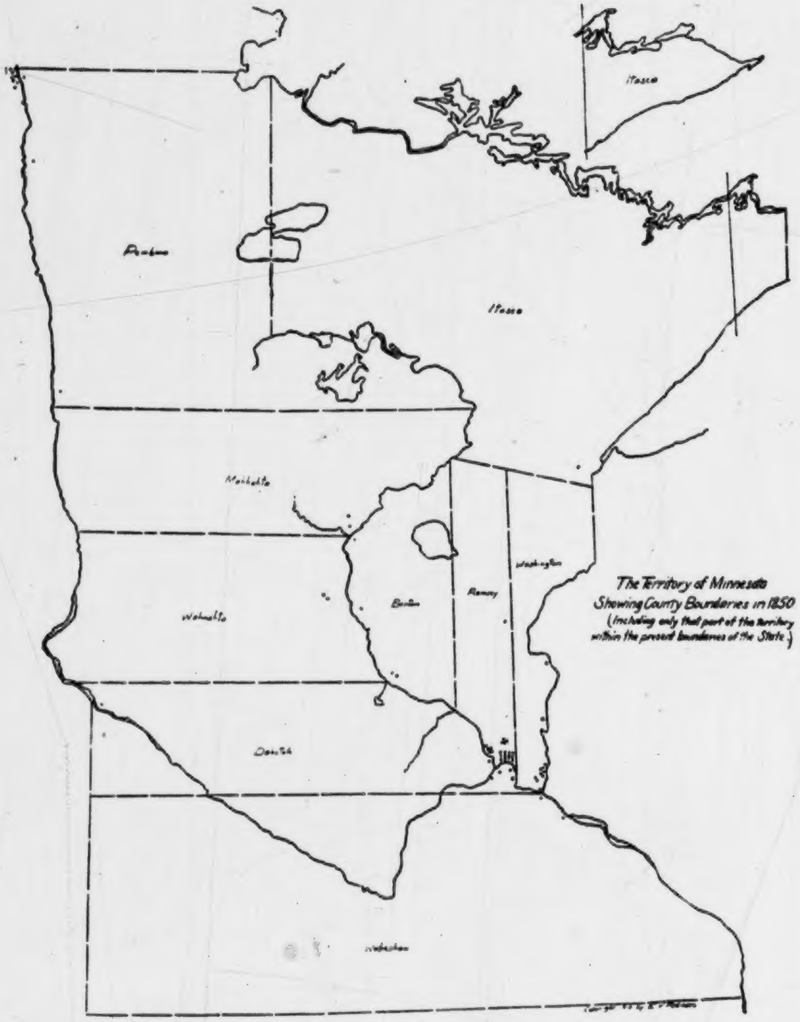

Pembina
Itasca
Itasca
Mahkahto
Wahnahta
Benton
Ramsey
Washington
Dakotah
Wabashaw
The Territory of Minnesota
Showing County Boundaries in 1850
(Including only that part of the territory within the present boundaries of the State.)

Figure 37. Approximate distribution of population in Minnesota at the census of 1850. (Each dot represents 100 persons or major fraction thereof.) (Based on Table III)

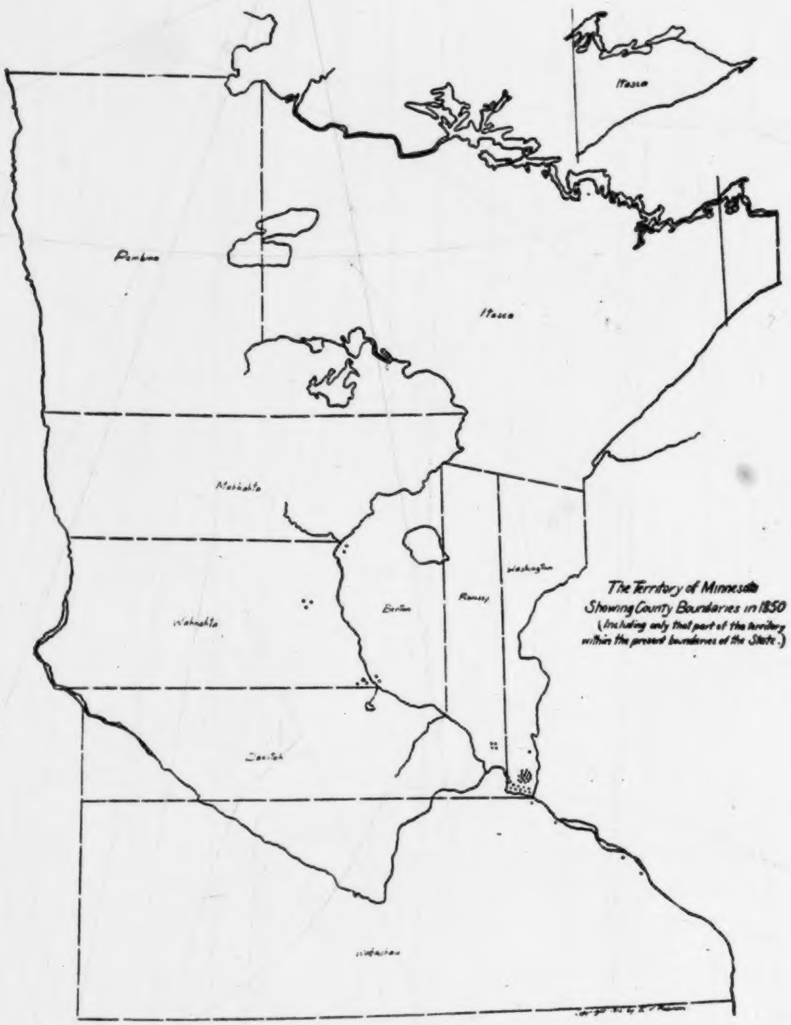

Pembina
Itasca
Itasca
Mahkahto
Wahnahta
Benton
Ramsey
Washington
Dakotah
Wabashaw
The Territory of Minnesota
Showing County Boundaries in 1850
(Including only that part of the territory within the present boundaries of the State.)

Figure 38. County names and boundaries and approximate distribution of improved farm land according to the census of 1850. (Each dot represents 100 acres or major fraction thereof.) (Based on Table III)

spelled) ranked third, in spite of the land there being unceded, probably by reason of the mission and trading posts along the Mississippi. In Washington County market-gardening had begun, in a small way, to supply the adjacent towns. In fact the district in Washington County extending from Douglas Point to Red Rock and Cottage Grove, easily accessible by water both to St. Paul and Stillwater, was the first center of commercial, as distinguished from self-sufficing, agriculture in Minnesota. Thus, under date of 1853 we read: "If the traveler wants to see what the practical farmer can do in Minnesota, let him ride down to Cottage Grove . . . . on the tongue of land extending down between the St. Croix and the Mississippi. The farmers there raise more oats, roots, everything that is good to eat, than they have any use for, and they sell a handsome surplus every year to St. Paul and Stillwater."[23]

The relative importance of various crops in 1849, as reported by the census of 1850, is shown in the following diagram.

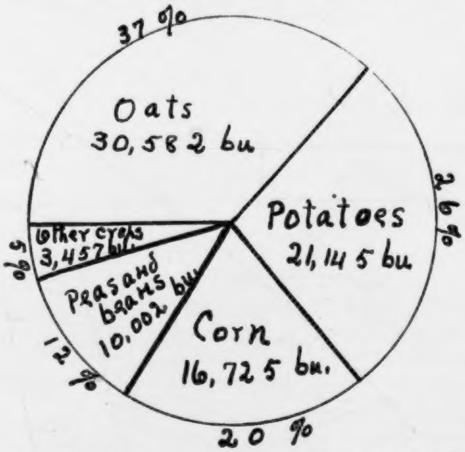


Figure 39. Field crops according to the census of 1850, showing the yield in bushels for the 1849 crop season and the percentage which each formed of the total (81,911 bushels). (Based on Table III)

The crops grown were thus chiefly of a character suited to local use. Wheat, the great market crop of later decades, had not yet come into vogue, the entire yield being only 1,401 bushels.

First grist-mills

Gristmills for local use were a feature of frontier life in Minnesota as elsewhere. In some cases they were driven by the wind, though usually by water or by steam. After the government mill at St. Anthony Falls (1823), the earliest gristmills in Minnesota were those built at Little Canada in 1844 and at Afton, near Cottage Grove, in the winter of 1845-46. These mills largely ground corn and other coarse grains, and were very small affairs. The census of 1850 reported only one gristmill in Minnesota having a product valued at $500 per year, smaller establishments not being counted (Table III, 44).

Development of agriculture, 1850-1857

During the fall of 1849 the first considerable farm (Russell's) had been opened above the Falls of St. Anthony, near Sauk Rapids.[24] Others followed rapidly in 1850 and thereafter, when the *Governor Ramsey* had begun to make trips on the upper river. As early as June, 1850, the census reported 20 holdings classed as farms in Benton County. In 1851 there is a record of three farms along the river, between the falls and the mouth of the Rum River, and others at Belle Prairie and Gull Lake.[25] In December, 1852, Captain Todd, the commandant at Fort Ripley, addressing the first session of the Benton County Agricultural Society, described in detail the management of two additional farms, besides that of Russell at Sauk Rapids.[26] On all, mixed farming rather than any one-crop system prevailed; though spring wheat was proving more dependable than winter wheat, and for the same reason, small grains were beginning to be preferred to corn.

During 1850 the Brophy settlement was begun around Lake Johanna, northeast of St. Anthony;[27] and the next spring much of the prairie between St. Paul and St. Anthony passed under the plow.[28] Owing to the proximity of markets in St. Paul and St. Anthony, agriculture here took on a more intensive character, the farms being relatively small and market-gardening an important feature on many of them. A nursery was also established between the cities. As a result, land in this district was already held at prices much above the average.[29]

In 1851 were negotiated the treaties of Traverse des Sioux and Mendota providing for the cession to the United States of substantially the southern half of Minnesota, west of the Mississippi (Fig. 36). Steamboat excursions up the Minnesota in the summer of 1850, added to the reports of the fur traders, had already made known the character of the country; and without waiting for the ratification of the treaty (June 26, 1852) a rush of settlers into the new cession began. The site of Minneapolis was occupied, and farmers spread as far west as Minnetonka. The valleys of the Root, Zumbro, and Cannon rivers, entering the Mississippi from the west, served as highways into the interior, especially through the driftless district where the valleys are better aggraded. The site of Winona, which became the fourth city in the State, was likewise determined by the convergence of a number of small valleys, offering easy routes on to the farming lands on the plateau. By the close of 1852 the west bank of the Mississippi was lined with villages and there were considerable settlements in the tributary valleys.[30] At the same time steamboats and other craft navigating the Minnesota River were crowded with settlers going into the south central region, and town sites were being established in all sorts of locations. The rush of settlers and the violence of speculation both increased still further in 1854, after the Sioux had finally retired the preceding year to their reservation on the upper Minnesota (Fig.36). This movement was stimulated, not only by the opening of such a vast area of fertile land, but also and especially by the great excursion up the river on the completion of the railroad from Chicago to Rock Island.[31] For the crop season of 1854 there were estimated to be 15,000 acres under tillage. This year also saw the first agricultural fair, held in Hennepin County.[32] By this time the territory was in the grip of a real estate "boom" which spread and grew with prodigious rapidity until the panic of 1857.[33]

[23] Bond, J. W., *Minnesota and Its Resources*, 34.
[24] *Minnesota in Three Centuries*, II, 446.
[25] Le Duc, W. G., *Minnesota Year Book for 1851*, 27-28. Bond, J. W., *Minnesota and Its Resources*, 46-49.
[26] *Ibid.*, 169-172.
[27] *Ibid.*, 362.
[28] *Ibid.*, 43.
[29] *Ibid*, 140-141.
[30] *Ibid.*, 50.
[31] Blakeley, Capt. Russell, *Advent of Commerce in Minnesota* (*Minn. Hist. Soc. Coll.* VIII, 393-400).
[32] *Second Annual Report of Commissioner of Statistics for 1860-61*, 55; Message of Governor Gorman, *Council Journal*, 1855, p. 41
[33] *Second Annual Report of Commissioner of Statistics for 1860-61*, 103.

Increase of population, 1850-1857

The substantial facts underlying this speculative frenzy were, first, that population was actually increasing rapidly, and, second, that most of the newcomers were turning to agriculture. From 4,780 on June 11, 1849, and 6,077 on June 1, 1850, the population of the territory increased to 20,000 before the opening of navigation in 1853[34] and 30,000 by January, 1855,[35] according to the best estimates; while the actual population shown by the territorial census was 53,600 during the summer of 1855,[36] and 150,037 in 1857, prior to the admission of Minnesota as a state.[37] It thus appears that from 1850 to 1854, when immigrants had to make an eight or ten days' drive by wagon from Milwaukee or Chicago to Galena, the increase of population in Minnesota was at the rate of approximately 5,000 a season; but beginning with 1854, when railroads from the east reached the Mississippi River, and continuing till the panic of August, 1857, the increase rose to about 35,000 a year.

Importation of food stuffs

Owing to the rapid growth of the towns and the lumbering industry, agriculture was for a time unable fully to supply the home market. Thus, it is recorded that during the winter of 1850-1851, the following scale of prices prevailed in St. Paul: flour, $7 a barrel; potatoes and oats, 50 to 75 cents a bushel; beef, 8 cents, pork, 10 cents, lard, 14 cents, butter, 25 cents a pound; and eggs, 25 cents a dozen. Some of these prices look modest enough to-day, but on the strength of them it was asserted that "farming is and must be a very profitable business in Minnesota. For their produce, farmers will have for years a home market and high prices."[38] Again, some three years later, under date of April 10, 1853, we encounter a similar statement: "Look at our prices current (in St. Paul) at this time, before the arrival of the first boat from below with *our supplies*: flour, six dollars per barrel; oats, fifty-five and sixty cents per bushel; and potatoes, seventy cents. Butter twenty-five cents per pound, and eggs and poultry not to be had for love or money."[39] As late as 1853 one of the writers desirous of inducing immigration placed his principal emphasis on potatoes and oats, adding, however: "No one competent to judge doubts the efficacy of Minnesota as a wheat-growing region, although this crop has not been thoroughly tested as yet."[40]

This failure of Minnesota for some years to feed herself was even made a ground of attack, especially by Horace Greeley, editor of the powerful *New York Tribune*, who alleged, as proving the worthlessness of the territory, that it "imported loafers, the bread that they ate as well as the whiskey that they drank."[41] It may be surmised that Greeley objected to seeing northern settlers drawn off to Minnesota, especially after the Kansas-Nebraska Act of 1852, when (as he thought) their presence was sorely needed in Kansas and other border territory to insure the supremacy of the antislavery element. To offset these unfavorable reports, energetic efforts, in part at public expense, were of course made in Minnesota, notably by General Le Duc in 1853.[42] Nevertheless, Mr. J. J. Hill has recorded that even so late as 1856, when he first came to the territory, "it was still considered that Minnesota might be a good country for lumber; we had a few cranberries to sell (probably 150 or 200 barrels a year); and beyond that the fur trade."[43]

Minnesota becomes self-supporting

However, the great flood of immigration, which for several years had been pouring in, somewhat abruptly changed the economic character of the territory. As early as 1852 some 2,000 bushels of wheat were shipped from Hastings, but the destination is not recorded and may have been St. Paul.[44] Mr. J. J. Hill further reports: "The first wheat that I know to have been shipped from Minnesota was in 1857, and was raised on the Le Sueur prairie. . . . . In 1859 there were a few thousand bushels of wheat raised, principally about Le Sueur and St. Peter. It was shipped to St. Louis by boat. . . . . There was not enough to fully load a barge. . . . . In 1859 and 1860, all the grain was hauled in seamless sacks. . . . . Milwaukee was practically the market for all our grain."[45] It seems clear, however, from other contemporary evidence, that in 1857, the imports of foodstuffs largely exceeded the exports; and that, owing to poor crops,[46] the supply barely met the demand in 1858, when Minnesota became a state. In 1859, however, the harvest was excellent, except that much of the corn was damaged by frost; and the fall of that year saw the feeble beginnings recorded by Mr. Hill grow into an important export movement of farm products, as shown by the following figures:

TABLE 5.—SHIPMENTS BY PORTS IN 1859*

PORTS	WHEAT	OATS	CORN	BARLEY	POTATOES	TOTALS
	Bushels	Bushels	Bushels	Bushels	Bushels	Bushels
Minneapolis and St. Anthony	......	13,000	33,000	......	46,000	92,000
St. Paul	12,848	30,000	5,376	......	50,000	98,224
Taylor's Falls	......	2,000	......	......	2,000	4,000
Stillwater	500	9,600	......	......	7,000	17,100

***First Annual Report of Commissioner of Statistics*, 1860, 155.

[34] Estimate in Bond, W. G., *Minnesota and Its Resources*, 22; for date compare 165.

[35] Message of Governor Gorman (*Council Journal*, 6 sess., 31, under date of Jan. 18, 1855).

[36] Message of Governor Gorman, Jan. 9, 1856, *Council Journal*, 7 sess., 257; and Williams, J. F., *History of St. Paul*, 359.

[37] *Second Annual Report of Commissioner of Statistics for 1860-61*, 98; *Minn. Ex. Doc.* 13, 1875.

[38] Le Duc, W. G., *Minnesota Year Book for 1851*, 49.

[39] Bond, J. W., *Minnesota and Its Resources*, 165.

[40] *Ibid*, 165.

[41] McClung, J. W., *Minnesota as It Is in 1870*, 92-93.

[42] Hill, J. J., *History of Agriculture in Minnesota* (*Minn. Hist. Soc. Coll.* VIII, 275-276).

[43] *Ibid.*, 276. About 4,500 barrels of cranberries were shipped during 1849 from St. Paul, Mendota, and Stillwater. (Seymour, E. S., *Sketches of Minnesota*, 157, 183; *Minnesota Chronicle*, Sept. 19 and 27, 1849; *Minnesota Pioneer*, Dec. 12, 1849 and Jan. 2, 1850.)

[44] *Minn. Hist. Soc. Coll.* VIII, 395.

[45] *Ibid.*, 276.

[46] Wheelock, J. A., *First Annual Report of Commissioner of Statistics*, 89, 100; Williams, J. F., *History of St. Paul*, 386, 391.

TABLE 5.—*Continued*

PORTS	WHEAT	OATS	CORN	BARLEY	POTATOES	TOTALS
	Bushels	Bushels	Bushels	Bushels	Bushels	Bushels
Pt. Douglas	6,000	6,000	......	......	......	12,000
Hastings	49,477	59,400	......	......	3,000	111,877
Pine Bend	3,000	1,000	......	......	......	4,000
Newport	......	1,500	......	......	......	1,500
Red Wing	30,000†	......	......	......	......	30,000
Lake City	18,000	......	......	......	3,400	21,400
Wabasha	4,800	10,000	......	......	2,000	16,800
Reed's Landing	3,000	5,000	......	......	1,000	9,000
Minneiska	12,000†	......	......	......	......	12,000
Mt. Vernon	3,000†	......	......	......	......	3,000
Winona	177,000	35,000	......	9,000	6,000	227,000
La Crescent	15,000	1,000	2,000	......	2,000	20,000
Hokah	3,000	......	......	......	......	3,000
Brownsville	32,000	4,000	......	1,000	......	37,000
Lake Superior	......	......	......	......	1,000	1,000
Totals	369,625	177,500*	40,376*	10,000	123,400	720,901‡

In spite of the fact that, as previously noted, agriculture in Minnesota began in the Cottage Grove district, and the first considerable wheat shipments are stated to have come from the Minnesota Valley, wheat first became the leading crop in the southeastern section, along the Mississippi and adjacent to older wheat-raising districts, and spread thence toward the north and west. Thus, in 1859, as appears from the preceding table, Winona and the other ports in that vicinity showed the largest wheat shipments, while from St. Paul but little, and from Minneapolis no wheat at all, was shipped. There is also contemporary testimony to the effect that the leading primary wheat market was at first Rochester, then Red Wing, and finally (by 1871) Minneapolis, indicating a similar shifting of the principal area of wheat-farming.[47]

Flour manufacture kept pace with, or even outran, the wheat crop. The first custom gristmill at St. Anthony dated from 1851, though it was not adapted to wheat till the following year. About the same time similar mills began to appear in the new cession west of the Mississippi. The first merchant mill at St. Anthony was built in 1854. For several years thereafter the local supply of wheat was inadequate and some had to be brought either 100 miles by wagon from Wisconsin, or up the river from Iowa and Illinois. The mill, nevertheless, proved profitable because of the large local demand, the lower freight charges on wheat than on flour, and the cheapness of power. As late as 1857, flour appears still to have been imported;[48] but in 1858, before wheat exports had fairly begun, the mill at St. Anthony made the first recorded shipment of flour to eastern markets;[49] and in the exports of 1859 there is a record of 114 barrels of flour shipped by way of La Crosse and Prairie du Chien, 100 of these going to Boston at a freight rate of $2.25 per hundred[50] (Note ‡, Table 5). Concerning the first shipment, it is reported by one of those concerned: "It was not considered that Minnesota flour would be accepted as genuine, and to make it genuine it was branded Muskingum Mills, Troy, Ohio. . . . . Within about three months after the first shipment the quality of the flour . . . was so very much better than the . . . . flour of Ohio that we were compelled to change the brand. Since that time it has dated from Minnesota."[51]

Up to 1840 the economic basis of Minnesota had been the fur trade. By 1850 lumbering, though still in its infancy, was fast becoming the leading industry. The close of the decade 1850-1860 saw the new state an agricultural community solidly planted upon the soil.

Distribution of population in 1860

The full extent of the economic revolution accomplished in the preceding decade appears in the census of 1860. In no respect is the change more strikingly shown than in the number and distribution of the population, compared to 1850 (Fig. 40).

In 1860 there were sixty-four counties in place of nine; three towns (St. Paul, St. Anthony, and Minneapolis), each having over 2,500 population, while another (Stillwater) had 2,380 inhabitants; and the total population was 172,023 east of the Red River, against 6,077 in 1850 for the entire territory.

The distribution of the population shows clearly the influence of transportation routes, settlement being densest along the navigable portions of the Mississippi, Minnesota, and St. Croix, and varying inversely with the distance from these streams. Actually, the population was mostly gathered within from thirty to sixty miles (roughly a two days' drive) of the rivers, but the use of the county as the unit of tabulation renders it impossible to differentiate the areas of denser settlement within the

---

***First Annual Report of Commissioner of Statistics*, 1860, 155. The totals printed in the commissioner's report are 164,500 for oats and 41,376 for corn, while the correct footings of the items are 177,500 and 40,376 respectively. While it is impossible to tell where the errors occurred, the county items are here accepted as correct and new totals calculated, in order to make the total balance.

†All grains, but principally wheat.

‡Other exports, mostly via La Crosse, Prairie du Chien, and Fulton, in 1859, were: ginseng, 203,000 pounds; cranberries, 10,300 bushels; bales of furs, 100; bales of buffalo robes, 403; hides and skins, 20,174 pounds; wool, 24 bales and 2,000 pounds; butter, 3,886 pounds; *flour, 114 barrels* (*Ibid.*, 108-109).

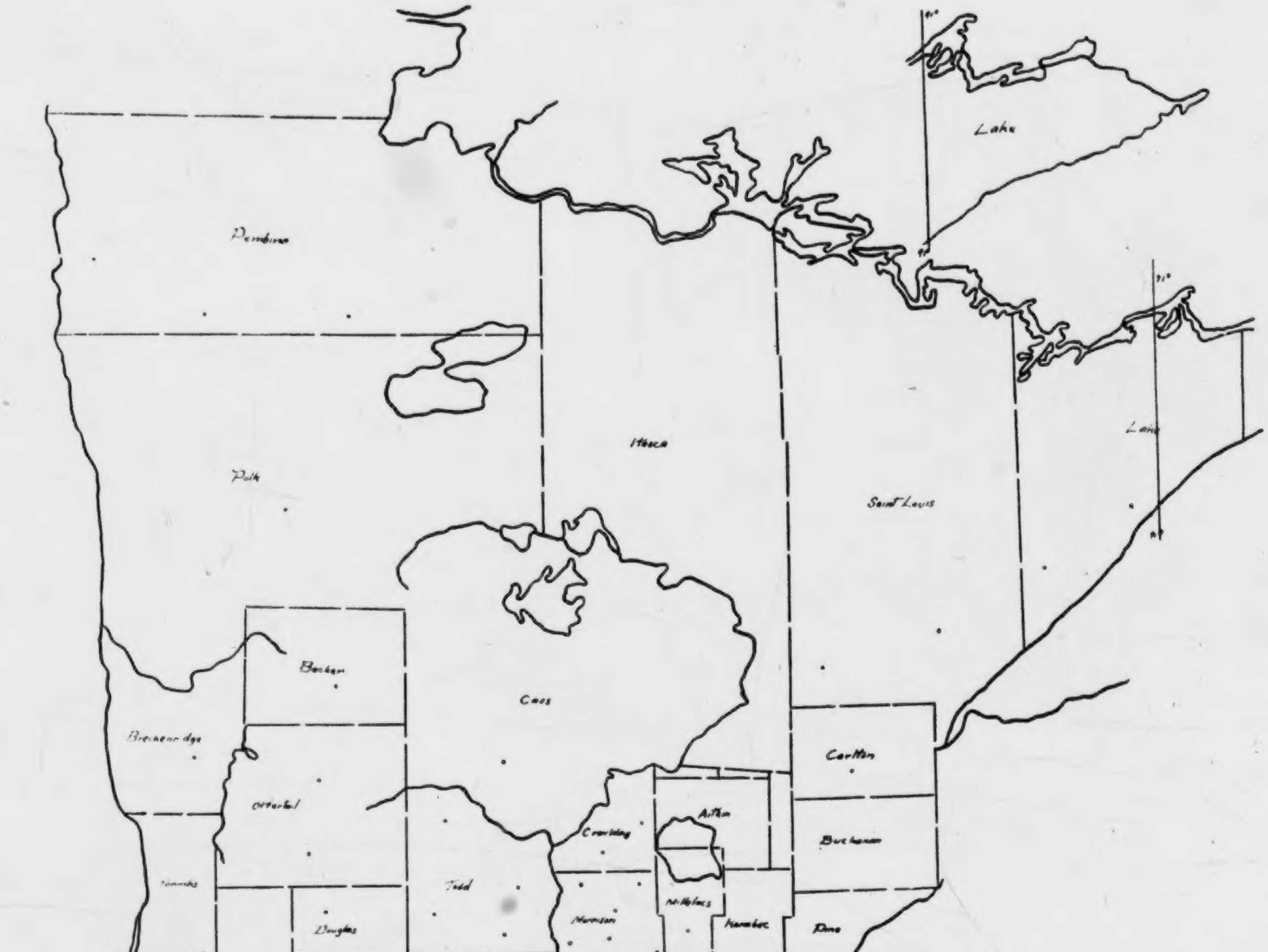
[47] Hill, J. J., *History of Agriculture in Minnesota* (*Minn. Hist. Soc. Coll.* VIII, 282).

[48] *First Annual Report of Commissioner of Statistics for 1859*, 121.

[49] Rogers, George D., *History of Flour Manufacture in Minnesota*. (*Minn. Hist. Soc. Coll.* X, Pt. 1, 38-39).

[50] Pillsbury, C. A., *American Flour* (Depew, *One Hundred Years of American Commerce*, I, 269).

[51] Hill, J. J., *History of Agriculture in Minnesota*. (*Minn. Hist. Soc. Coll.* VIII, 277).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Todd
Douglas
Morrison
Mille Lacs
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Benton
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Isanti
Sherburne
Chisago
Pierce
Anoka
Monongalia
Meeker
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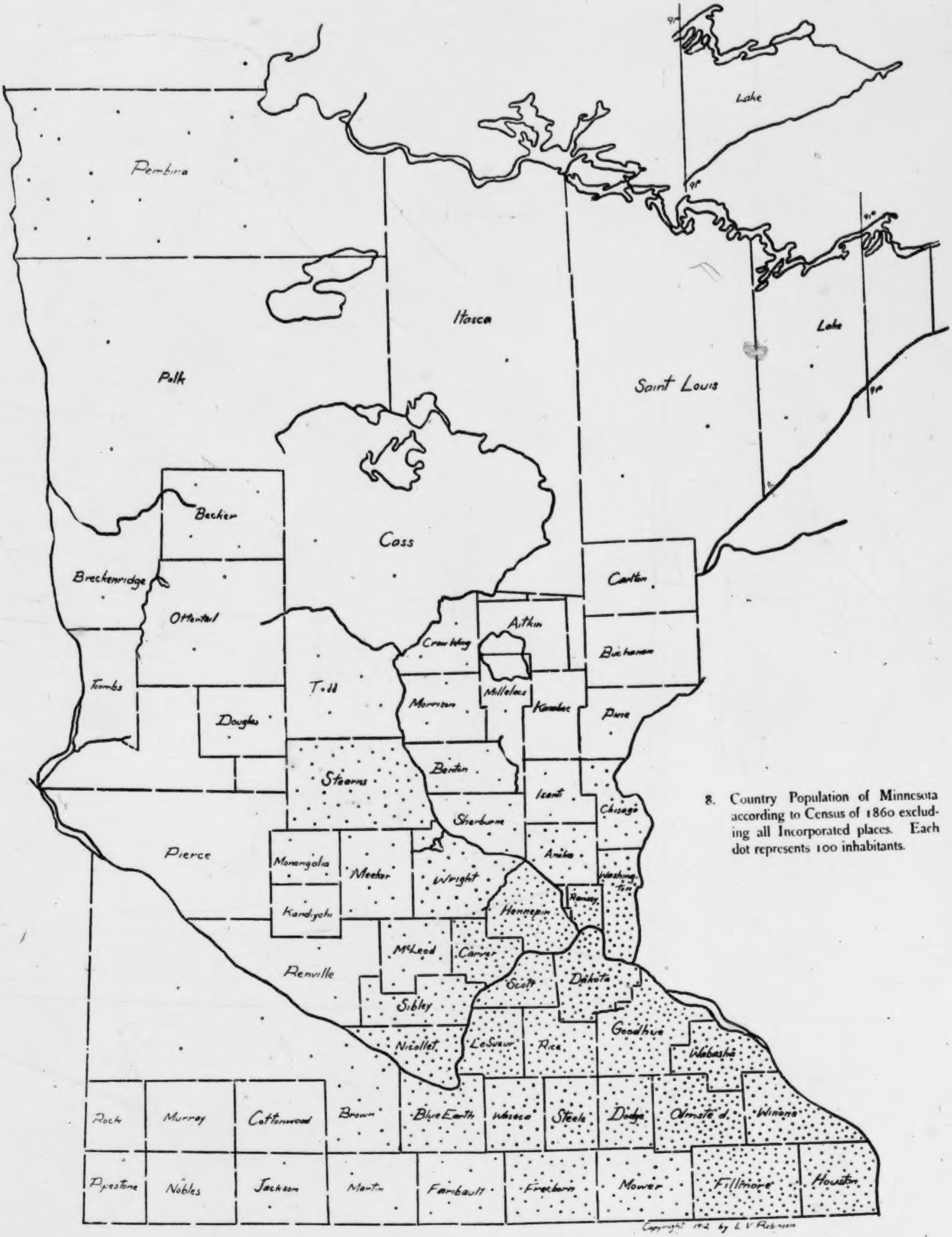
Hennepin
Kandiyohi
McLeod
Carver
Renville
Scott
Dakota
Sibley
Nicollet
Le Sueur
Rice
Goodhue
Wabasha
Rock
Murray
Cottonwood
Brown
Blue Earth
Waseca
Steele
Dodge
Olmsted
Winona
Pipestone
Nobles
Jackson
Martin
Faribault
Freeborn
Mower
Fillmore
Houston
Copyright

1. Rural Population of Minnesota according to Census of 1860 including Cities and Villages of less than 2500 Population.
Each dot represents 100 Inhabitants.
Each circle represents Incorporated Place of 2500 or more Inhabitants.

Figure 40. Rural population of Minnesota in 1860. (Based on Table XI)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8. Country Population of Minnesota according to Census of 1860 excluding all Incorporated places. Each dot represents 100 inhabitants.

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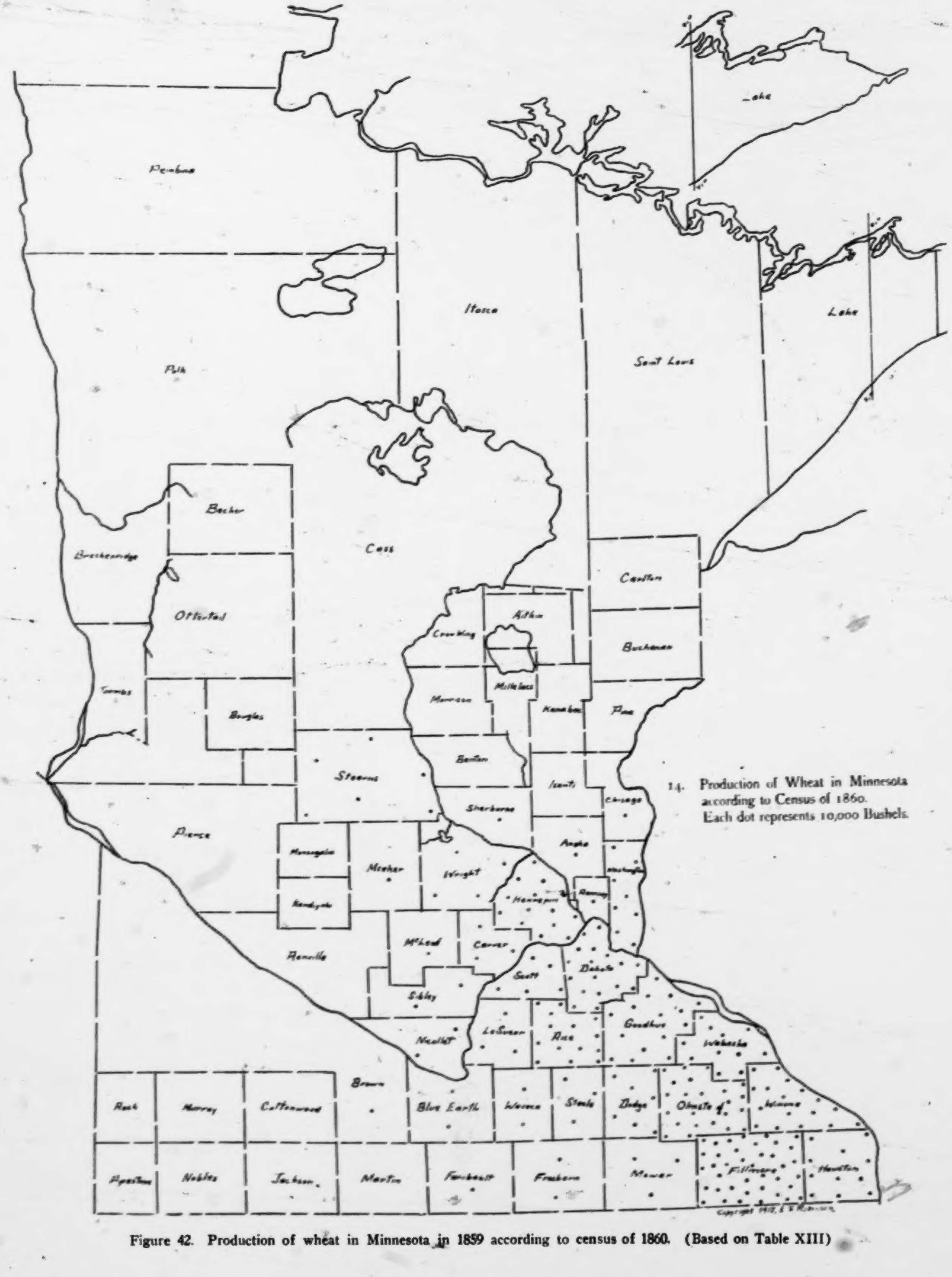
Figure 41. Population outside of incorporated places in 1860. (Based on Table XI)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Blue Earth
Waseca
Steele
Dodge
Olmsted
Winona
Pipestone
Nobles
Jackson
Martin
Faribault
Freeborn
Mower
Fillmore
Houston
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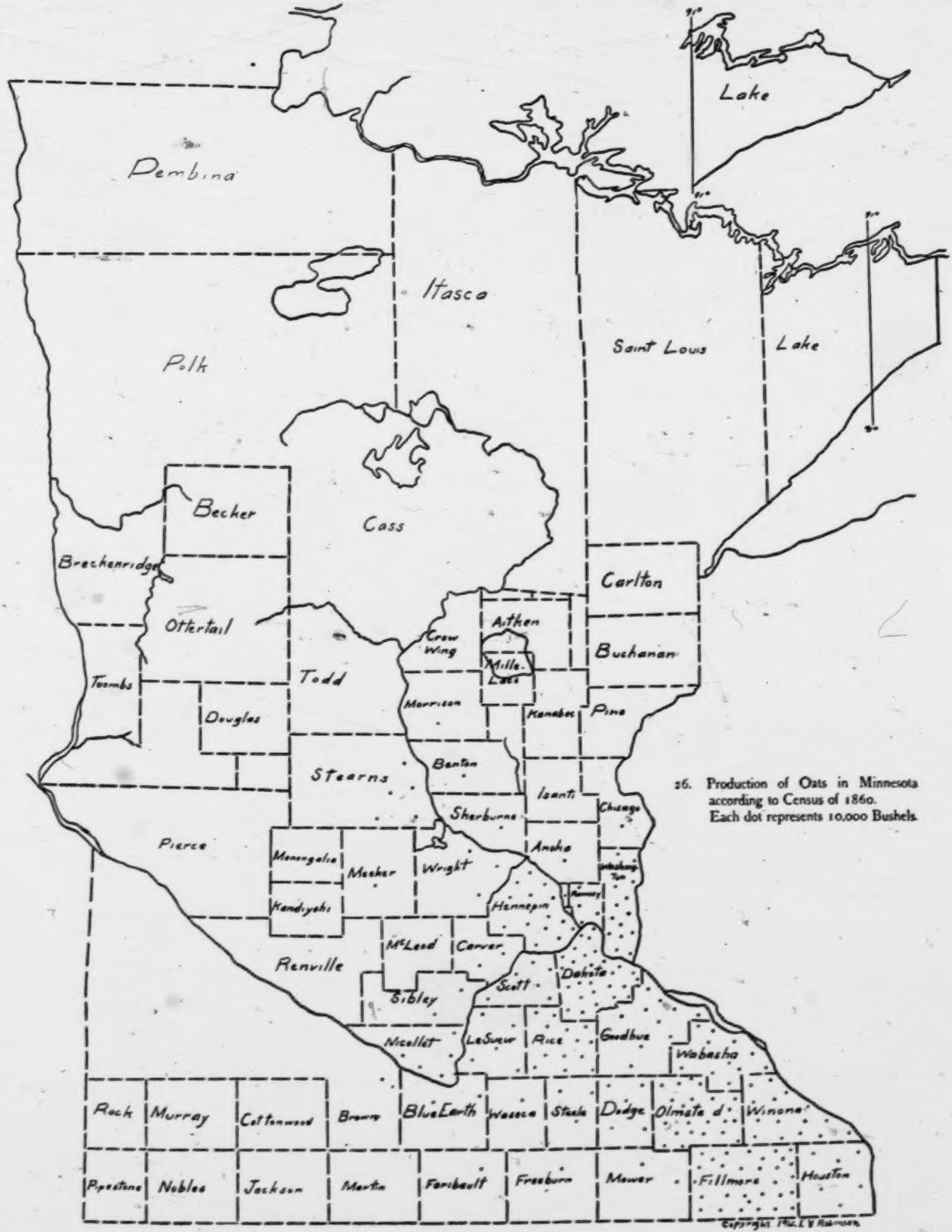
14. Production of Wheat in Minnesota according to Census of 1860.
Each dot represents 10,000 Bushels.

Figure 42. Production of wheat in Minnesota in 1859 according to census of 1860. (Based on Table XIII)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Waseca
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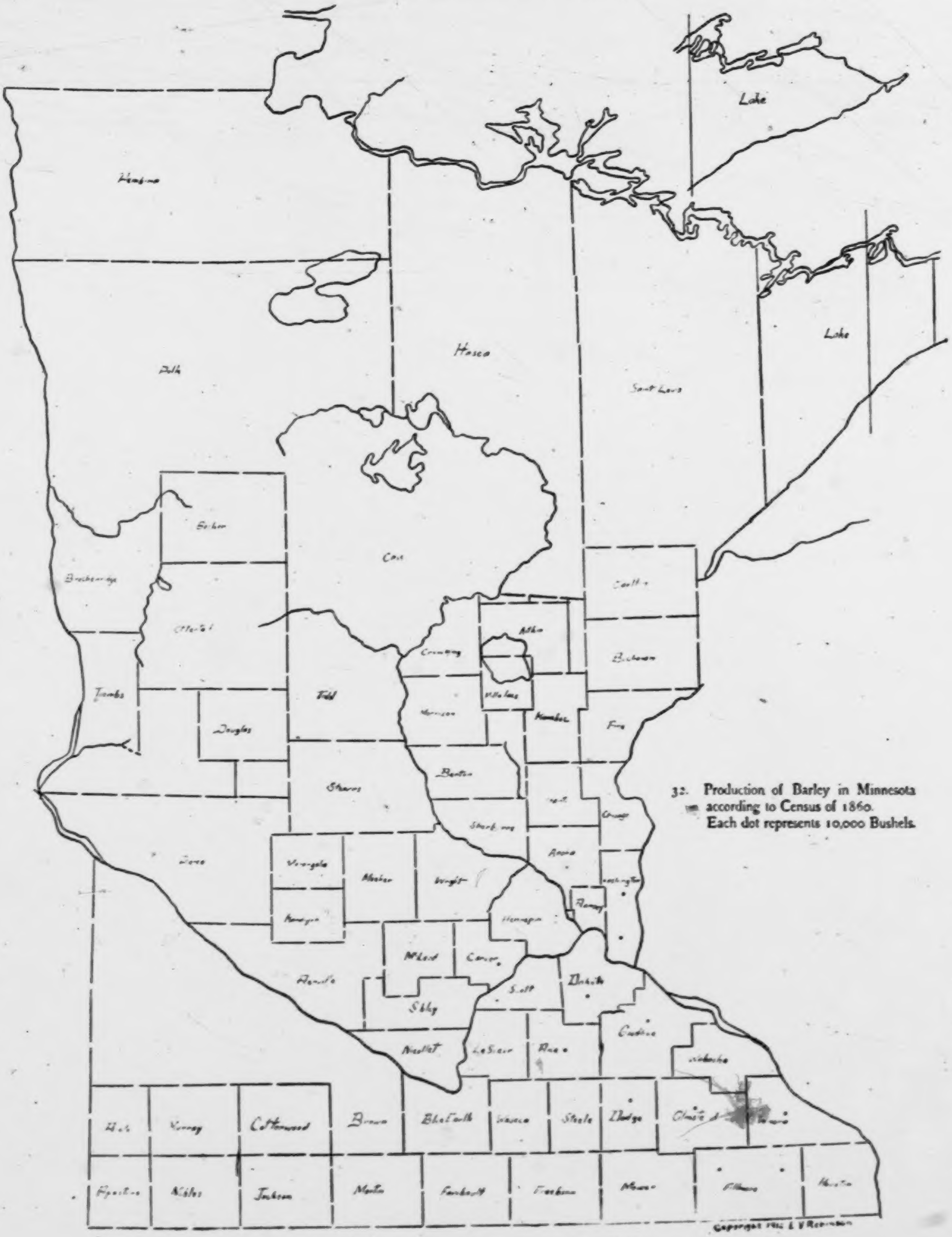
Olmsted
Winona
Pipestone
Nobles
Jackson
Martin
Faribault
Freeborn
Mower
Fillmore
Houston
Copyright E V Robinson

26. Production of Oats in Minnesota
according to Census of 1860.
Each dot represents 10,000 Bushels.

Figure 43. Production of oats in Minnesota in 1859 according to the census of 1860. (Based on Table XIV)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Buchanan
Crow Wing
Toombs
Todd
Mille Lacs
Morrison
Kanabec
Douglas
Pine
Benton
Stearns
32. Production of Barley in Minnesota according to Census of 1860. Each dot represents 10,000 Bushels.
Isanti
Chisago
Sherburne
Anoka
Davis
Monongalia
Meeker
Wright
Washington
Ramsey
Kandiyohi
Hennepin
McLeod
Carver
Renville
Scott
Dakota
Sibley
Goodhue
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Waseca
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Pipestone
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Fillmore
Houston
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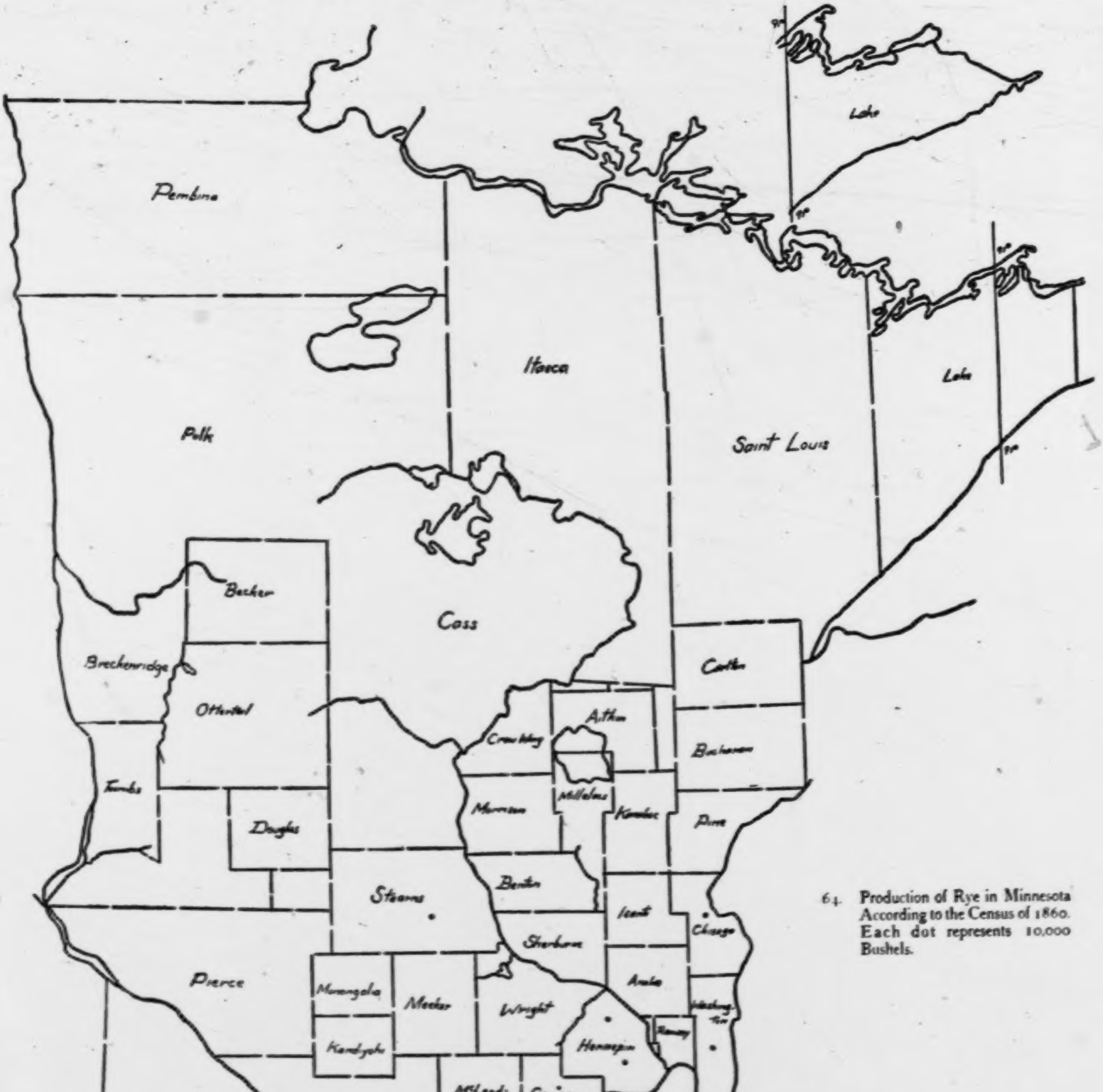
Figure 44. Production of barley in Minnesota in 1859 according to census of 1860. (Based on Table XVI)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Sibley
Goodhue
Nicollet
LeSueur
Rice
Wabasha
Rock
Murray
Cottonwood
Brown
Blue Earth
Waseca
Steele
Dodge
Olmsted
Winona
Pipestone
Nobles
Jackson
Martin
Faribault
Freeborn
Mower
Fillmore
Houston

64. Production of Rye in Minnesota According to the Census of 1860. Each dot represents 10,000 Bushels.

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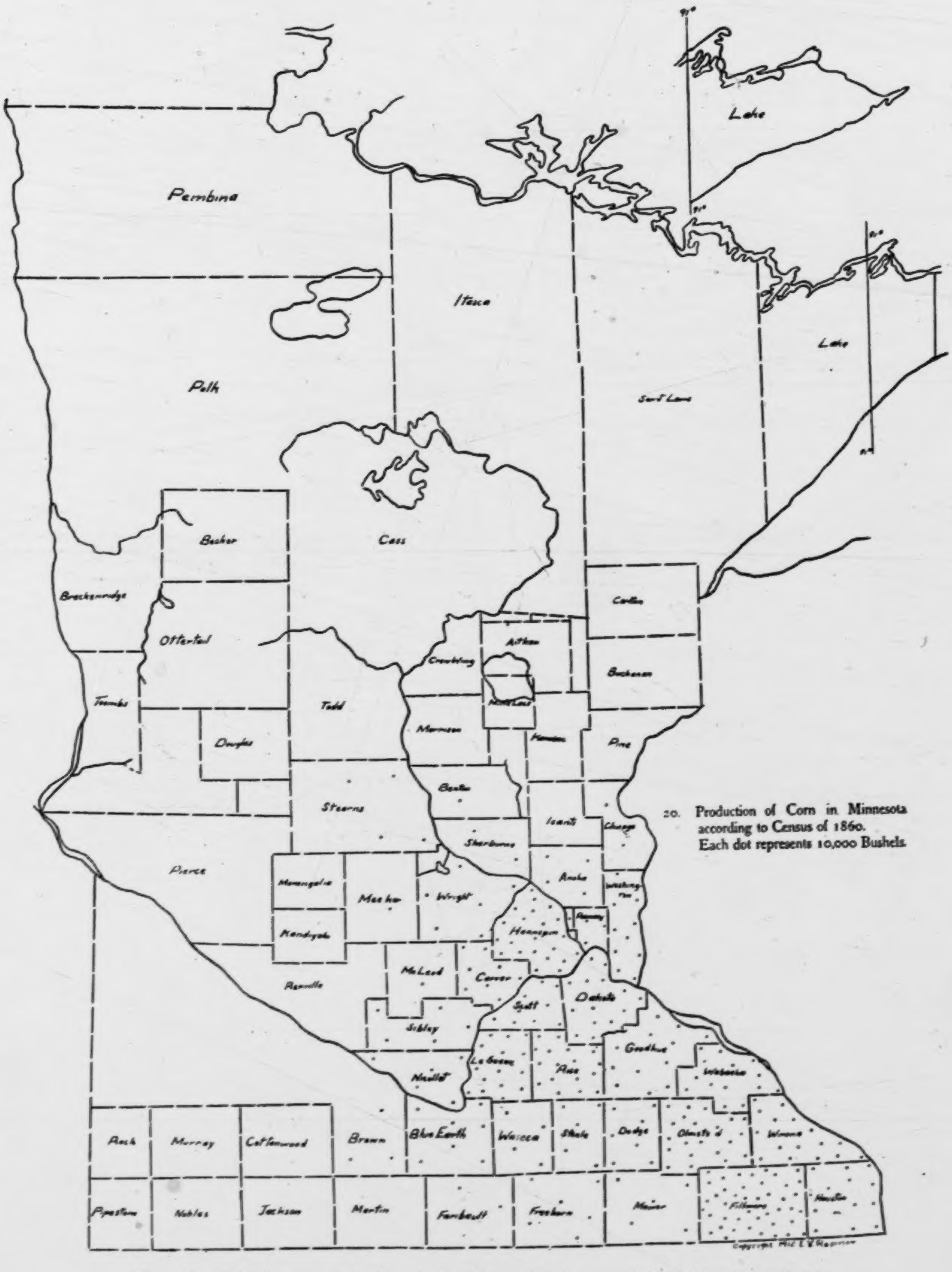
Figure 45. Production of rye in 1859 according to the census of 1860 (Based on Table XVII)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Kanabec
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Dodge
Olmsted
Winona
Rock
Murray
Cottonwood
Brown
Pipestone
Nobles
Jackson
Martin
Faribault
Freeborn
Mower
Fillmore
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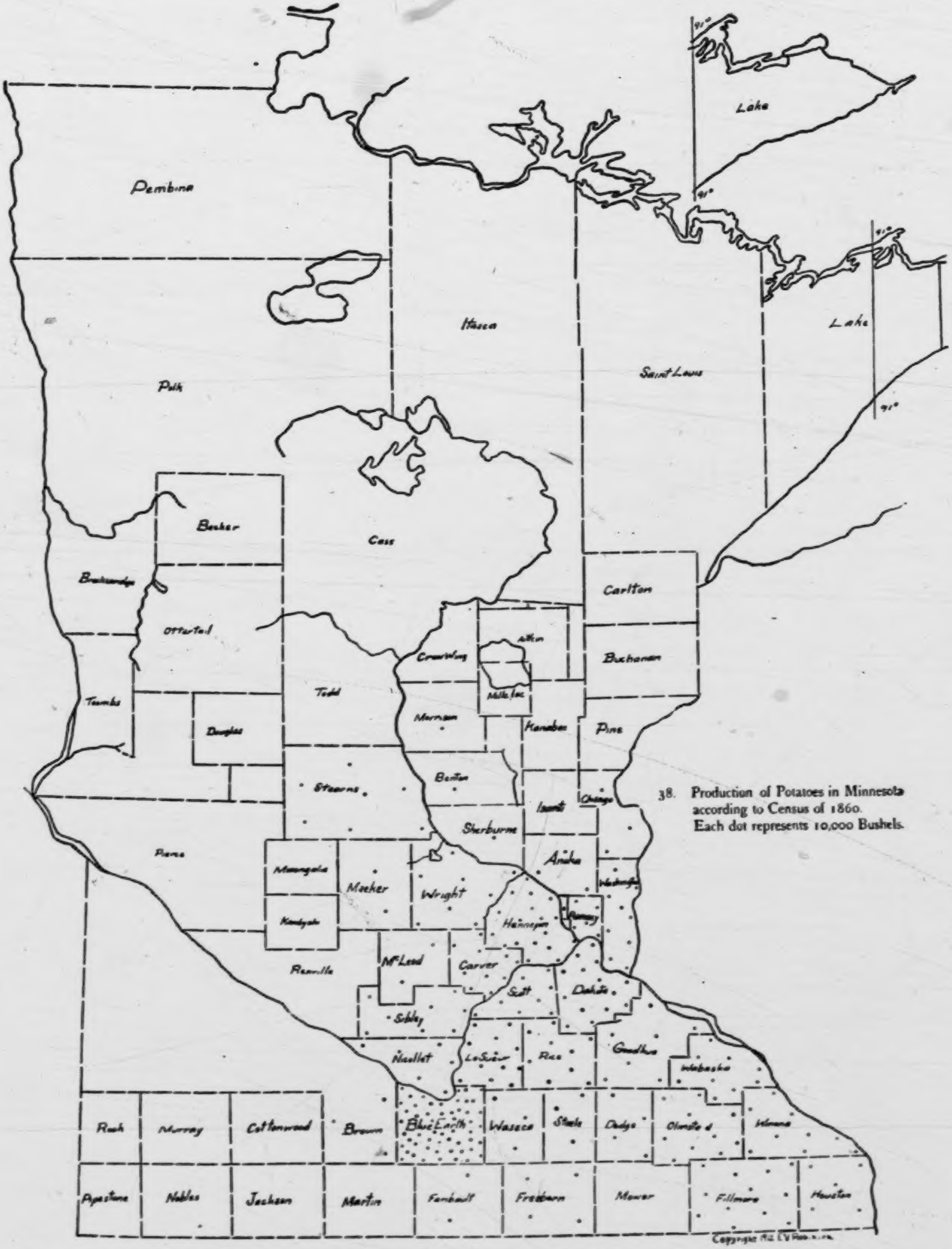
20. Production of Corn in Minnesota according to Census of 1860. Each dot represents 10,000 Bushels.

Figure 46. Production of corn in Minnesota in 1859 according to census of 1860. (Based on Table XV)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Goodhue
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Murray
Cottonwood
Brown
Blue Earth
Waseca
Steele
Dodge
Olmsted
Winona
Pipestone
Nobles
Jackson
Martin
Faribault
Freeborn
Mower
Fillmore
Houston

38. Production of Potatoes in Minnesota according to Census of 1860.
Each dot represents 10,000 Bushels.

Figure 47. Production of potatoes in Minnesota in 1859 according to the census of 1860. (Based on Table XVIII)

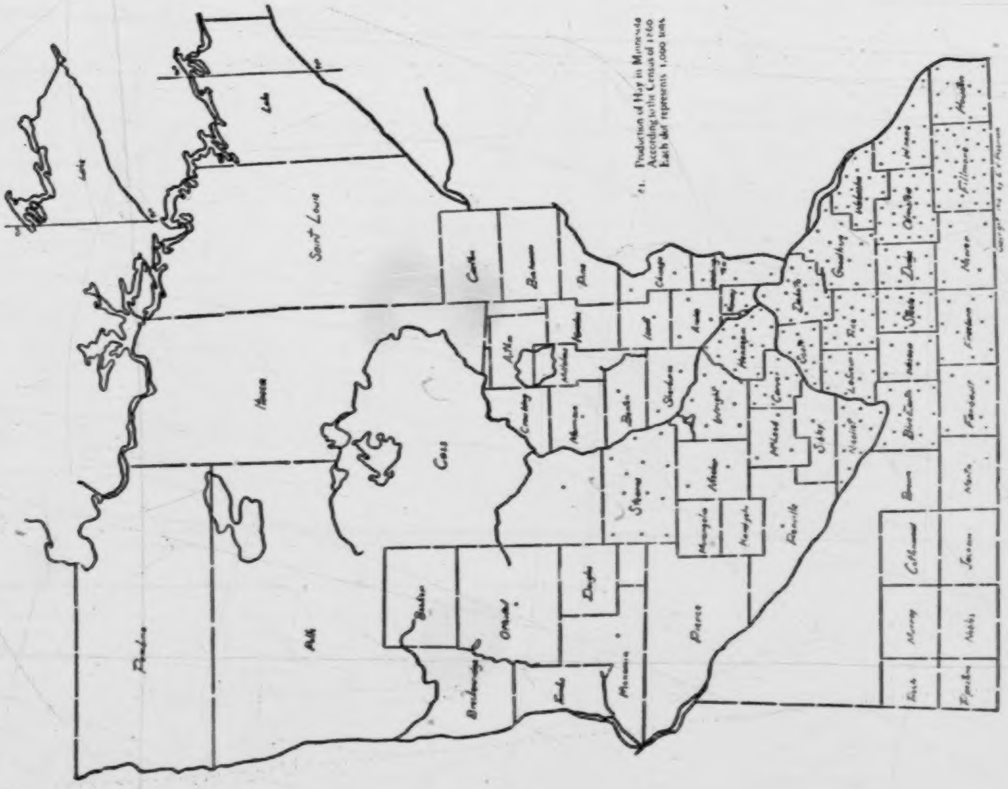
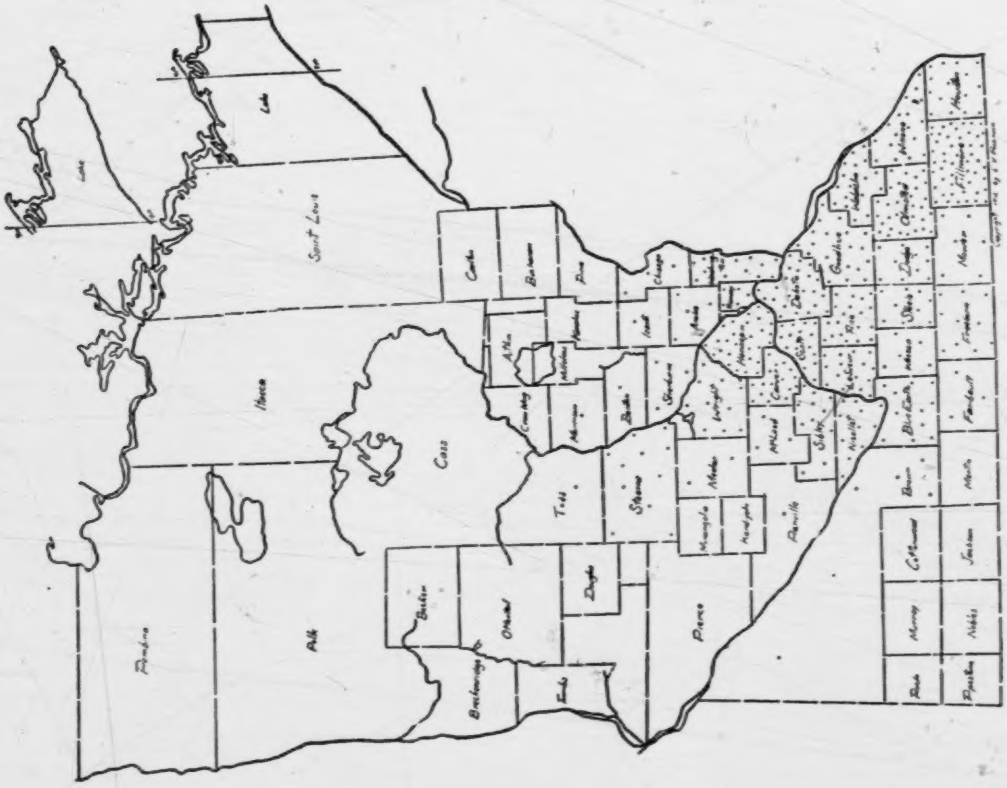

Production of Hay in Minnesota
According to the Census of 1860
Each dot represents 1,000 tons.
Pembina
Polk
Itasca
Saint Louis
Lake
Cass
Carlton
Buchanan
Pine
Stearns
Pierce
Fillmore
Houston

Figure 48. Production of hay in Minnesota in 1859 according to the census of 1860. (Based on Table XXII)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Todd
Stearns
Pierce
Fillmore
Houston

Figure 49. Distribution of dairy cows according to the census of 1860. Each dot represents 100 milch cows or major fraction thereof. (Based on Table XXIV)

counties. The same difficulty is of course encountered in mapping the crop areas. The region between the Mississippi and the Minnesota, however, had been comparatively well settled, not only by infiltration from both directions, but also by reason of the military road running south along the divide (Fig. 30). The considerable settlement in Stearns County arose from the fact that the ordinary head of navigation on the upper river was at Sauk Rapids, and that at about this point the valley, curving toward the north, leads directly into the coniferous zone. As a result, agricultural immigrants, being forced to land at the rapids, spread over the region of mixed hardwood and prairie to the westward, along what was rapidly becoming the principal trail to the Red River Valley. East of the Mississippi settlement made relatively little progress except for the original agricultural district in Washington and Ramsey counties.

In order to eliminate, so far as possible, the influence of lumbering, manufactures, and commerce, another map has been prepared showing only the population in the open country, exclusive of all incorporated places, according to the census of 1860.

The distribution of population on this basis is somewhat more even as between the inhabited counties, though the effect of Sauk Rapids is again evident in Stearns County. Even this country population, however, can not be considered exclusively agricultural, for two reasons: first, many places which were in fact villages had not yet been incorporated; second, persons engaged in the fur trade, lumbering, or fishing were mostly found outside of incorporated towns.

Distribution of farm products in 1859 (Census of1860)

The wheat crop for 1859 (census of 1860) was more restricted in its distribution than the country population, most of it being grown in the two tiers of counties west of the Mississippi and south of the Minnesota, though it extended as far as Stearns County. The greatest density appeared in Fillmore and Olmsted counties, which are largely loess-covered (Fig. 42) and less dissected by streams than the river counties. The oat crop had substantially the same distribution, except that it was more strongly represented east of the Mississippi. Being grown chiefly for local use, oats was more important near the cities and the lumbering districts. In other respects its distribution followed that of the agricultural population, except on the extreme frontier.

The minor small grains, barley and rye, were grown in very limited quantities. Barley extended over about the same areas as wheat and oats, while rye did not appear in the southeastern district, aside from the Minnesota Valley.

Corn and potatoes, like wheat and oats, extended as far north as Stearns County; but true to their character as frontier crops grown for local consumption, they were also found at materially greater distances from the rivers than was wheat, or even oats. Corn had the preference on the extreme frontier because more easily planted and harvested on land imperfectly cleared or broken. It will be remembered, too, that an early frost had destroyed a considerable part of the corn crop of 1859, which is represented in this census (p. 44; Fig. 46). The great apparent density of potato-growing in Blue Earth County is manifestly an error in the census, since there was nothing before or afterwards, or in adjacent counties, to indicate such intensive cultivation of a bulky crop. Moreover, such a type of agriculture would be wholly inconsistent with the necessities of frontier existence. Only when large markets and cheap transportation are available, is it possible to carry on specialized potato-growing.

The production of hay, mostly wild hay, and the distribution of milch cows, corresponded closely to the distribution of the country population, extending beyond the areas devoted to cereals well into the wilderness. For the most part, both hay and milk served purely local uses, the dairy exports reported for 1859 being only 3,886 pounds of butter. The principal dairy product was butter (2,957,673 pounds), while the output of cheese was less than one tenth as much (199,314 pounds). These were prepared on the farm, butter and cheese factories being altogether unknown.

Among the minor products dry or field peas and beans amounted to 18,988 bushels; and garden produce was valued at $94,704,[52] against $150 in 1850. The increase had occurred chiefly in Hennepin, Ramsey, and Wright counties, adjacent to the two cities. On the other hand, market-gardening remained insignificant in Washington County, where it had first appeared, notwithstanding the proximity of Stillwater and St. Paul. The development of small-scale farming in Little Canada, not far across the line in Ramsey County, presumably had some bearing on the matter. The census also reported $649 worth of orchard products, 140[52] pounds of hops, 1,983 pounds of flax fiber, 109 tons of hemp, and 38,938 pounds of tobacco. There were even somewhat bizarre agricultural experiments (suggesting what took place in New England in the seventeenth century), such as the production of 412 gallons of wine, 3,286 pounds of rice, and 52 pounds of silk cocoons. It would seem that Minnesota was thought to be almost, if not quite, in the banana belt.

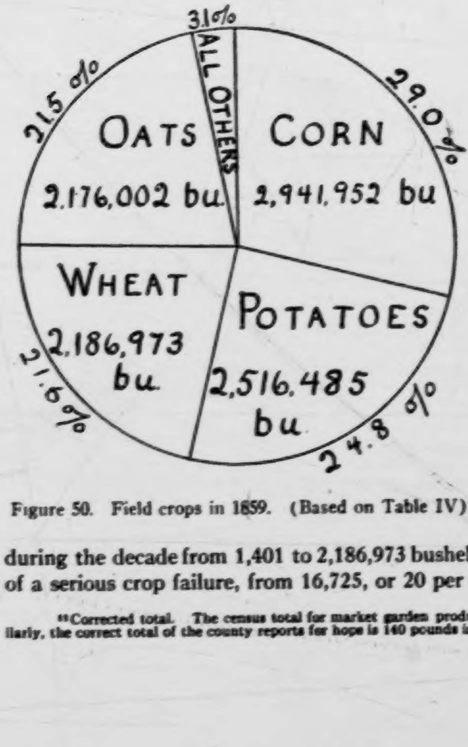

Figure 50. Field crops in 1859. (Based on Table IV)

Relative importance of crops

The relative importance of field crops in 1859 according to the census of 1860 appears from Table IV and Fig. 50.

Comparing Fig. 50 with Fig. 39 (p. 43), the most striking difference is seen to be the development of the wheat and corn crops. Wheat advanced during the decade from 1,401 to 2,186,973 bushels, which was 21.6 per cent of all field crops at the census of 1860; and corn, in spite of a serious crop failure, from 16,725, or 20 per cent, in 1849, to 2,941,952 bushels, or 29 per cent of all field crops, in 1859.

[52] Corrected total. The census total for market garden produce, $174,704, shows a discrepancy of $80,000 compared to the items of which it purports to be the footing. Similarly, the correct total of the county reports for hops is 140 pounds instead of 132 pounds, as given.

Oats, the leading crop of 1849, stood fourth in 1859, after corn, potatoes, and wheat, although almost on a parity with wheat.

A similar advance of wheat is suggested by the development of manufactures. In place of four sawmills, producing lumber worth $57,800, as in 1850, there were in 1860 no less than 158 sawmills, with a product valued at $1,234,203. Even more striking was the increase reported in gristmills, namely, from one mill with products worth $500, to 81 mills grinding $1,289,665 worth of products. In short, by 1860, agriculture and the factories based thereon had superseded the forest as the chief source of wealth in Minnesota.

TABLE 6.—MANUFACTURES IN MINNESOTA ACCORDING TO THE CENSUS OF 1860

Industries	No. of plants	Capital invested	Cost of raw materials	Hands employed	Annual wages	Annual value of products
1. Agricultural implements	12	$19,650	$11,870	42	$14,364	$45,150
2. Wagons, carts, etc.	14	6,000	5,623	20	5,640	13,275
3. Total of implements and wagons	26	25,650	17,493	62	20,004	58,425
4. Gristmills	81	587,500	978,552	188	67,212	1,289,665
5. Meat packing	3	21,000	25,334	6	1,680	35,238
6. Total of grain and meat	84	608,500	1,003,886	194	68,892	1,324,903
7. Sawmills	158	1,334,120	593,607	1,146	363,612	1,234,203
8. Reworking of lumber	58	134,650	60,844	202	75,624	181,166
9. Total of lumber	216	1,468,770	654,451	1,348	439,236	1,415,369
10. All other manufactures	236	285,390	228,240	519	184,082	574,475
Total of all manufactures	562	$2,388,310	$1,904,070	2,123	$712,214	$3,373,172

While commercial agriculture, represented chiefly by wheat, was thus in the process of rapid development, the farmers in Minnesota were still, in the main, growing crops for their own use or at most for local consumption. This fact is evident from the percentage relation of the various field crops. Even the gristmills reported by the census were mostly custom mills, serving local patrons, as shown by the relatively small export of flour (Table 8).

Relation of population to land

The change from 1849 to 1859 in the relation of population to land and food supply clearly appears in Table 7 at the end of this chapter. From the last column, indicating the percentage of change, it is seen that the number of farms, total field crops, and value of all farm property, each increased approximately three times as fast as the total population. On the other hand, the average size of farms, calculated from the corrected total number of farms (17,999) obtained by footing the counties, fell from 184 to 150 acres. On the basis of the unsupported total number given in the census (18,181),[53] the average size of farms would be reduced still further, to 149 acres. The field crops, comprising the bulk of the local food supply, thus increased roughly three and a half times as fast as the population outside of incorporated places. This change marks the transition from dependence on outside food supplies to independence and the beginning of food exports.

TABLE 7.—CHANGES IN AGRICULTURE FROM 1850 TO 1860, ACCORDING TO THE CENSUS RETURNS

ITEMS	1850	1860	Percentage of Increase or Decrease 1850 TO 1860
1. Total population	6,077	172,023	2,730.7
2. Country population	3,806	122,530	3,119.4
3. Number of farms	157	17,999*	11,364.4
4. Land in farms (acres)	28,881	2,711,968	9,290.1
5. Improved land in farms (acres)	5,035	556,250	10,947.7
6. Average size of farms (acres)	184	151*	—17.9
7. Improved land per farm (acres)	32.0	30.9*	—3.4
8. Field crops (bushels)	81,911	10,114,677†	12,243.4
9. Value of farms (land and buildings)	$161,948	$27,505,922	16,884.4
10. Value of implements, etc.	15,981	1,018,183	6,271.2
11. Value of live stock	92,859	3,642,841	3,823.0
12. Value of implements and live stock	108,840	4,661,024	4,182.5
13. Value of all farm property	270,788	32,166,946	11,779.0
14. Value of lands and buildings per acre	5.61	10.14	80.7
15. Value of all farm property per acre	9.37	11.86	26.4
16. Value of all farm property per capita of the country population	71.17	262.52	268.9

[53] Either a typographical error or an enlarged estimate to allow for assumed omissions in the county figures.

*The total number of farms given in the census (p. 222) is 18,181, but the county totals (p. 205) foot up only 17,999, which number is here adopted.

†All cereals, peas and beans, potatoes (Irish and sweet), clover and grass seed and flaxseed, with census totals of wheat, barley, potatoes, clover and grass seed corrected to correspond to items standing over them in the census.

CHAPTER IV

PERIOD OF SPECIALIZED WHEAT FARMING 1860-1880

The course of wheat prices prior to 1860

Wheat being preëminently a market crop, its spread was powerfully affected by the upward course of wheat prices during the later fifties and early sixties.

In 1846, according to quotations collected for Madison, Wisconsin,[1] wheat had fluctuated around sixty cents per bushel and tended on the whole to decline until 1852 or 1853, but rose with extraordinary rapidity to $1.70 in 1855 (Fig. 51). This mountainous rise was presumably caused by the disorganization of the wheat trade and stoppage of supplies due to the Crimean War. The cause being temporary, the rise was followed by a sharp drop in 1856 and 1857, though not to as low a point. By 1858 minimum prices were again rising and this rise was accelerated on the outbreak of the Civil War.

In Minnesota reliable statistics date from 1881, when the Minneapolis Chamber of Commerce was organized; prior to that date reliance must be placed, as at Madison, on irregular quotations in the newspapers.[2] These indicate the same rise in the

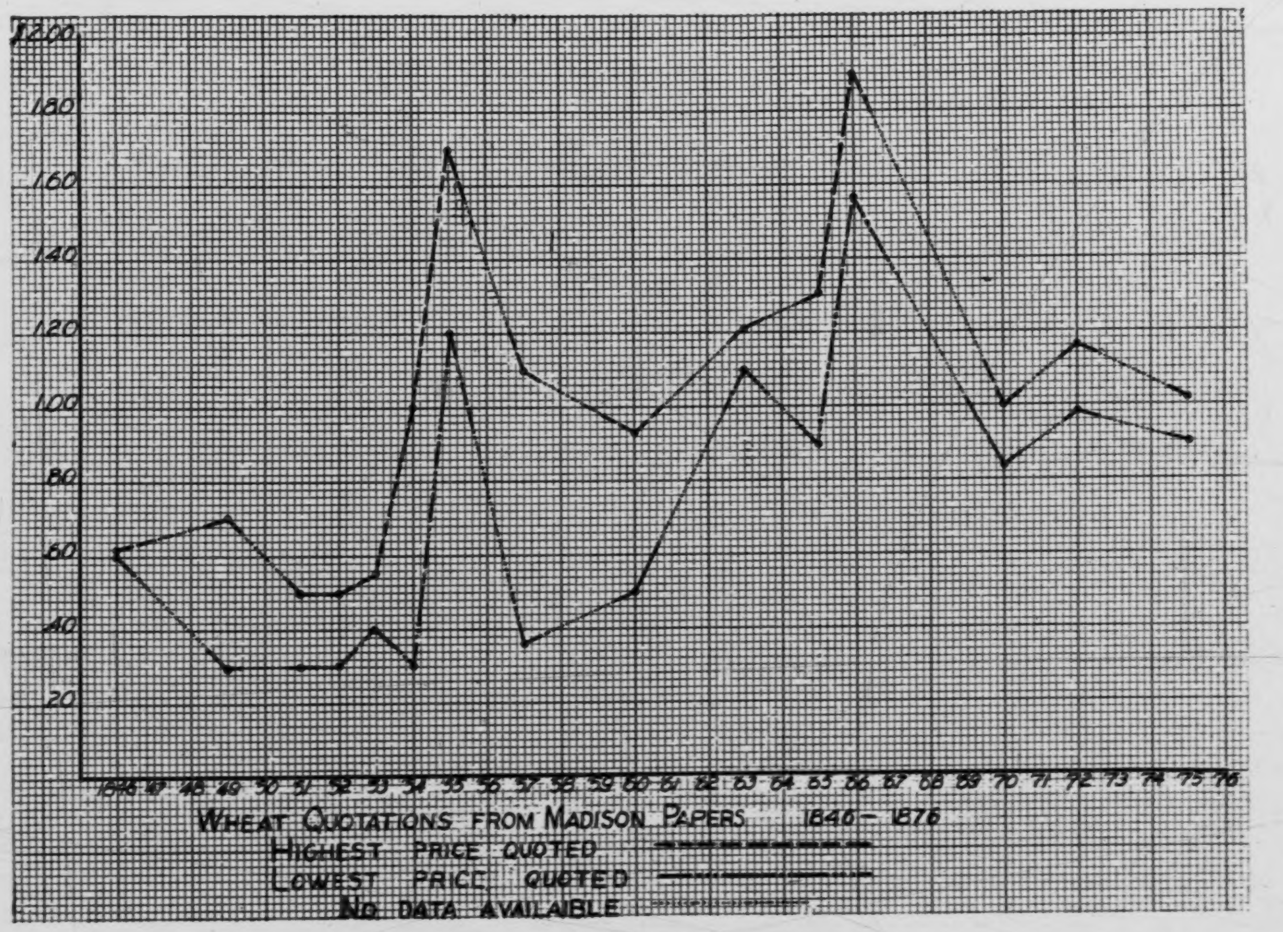

Figure 51. Wheat prices at Madison, Wisconsin, 1846-1876.[1]

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[1] Hibbard, B. H., *History of Agriculture in Dane Co., Wis.*, 133.
[2] *Second Annual Report Commissioner of Statistics, 1860-61*, 54-55. The 0.5 per cent represents "all other bushel crops."

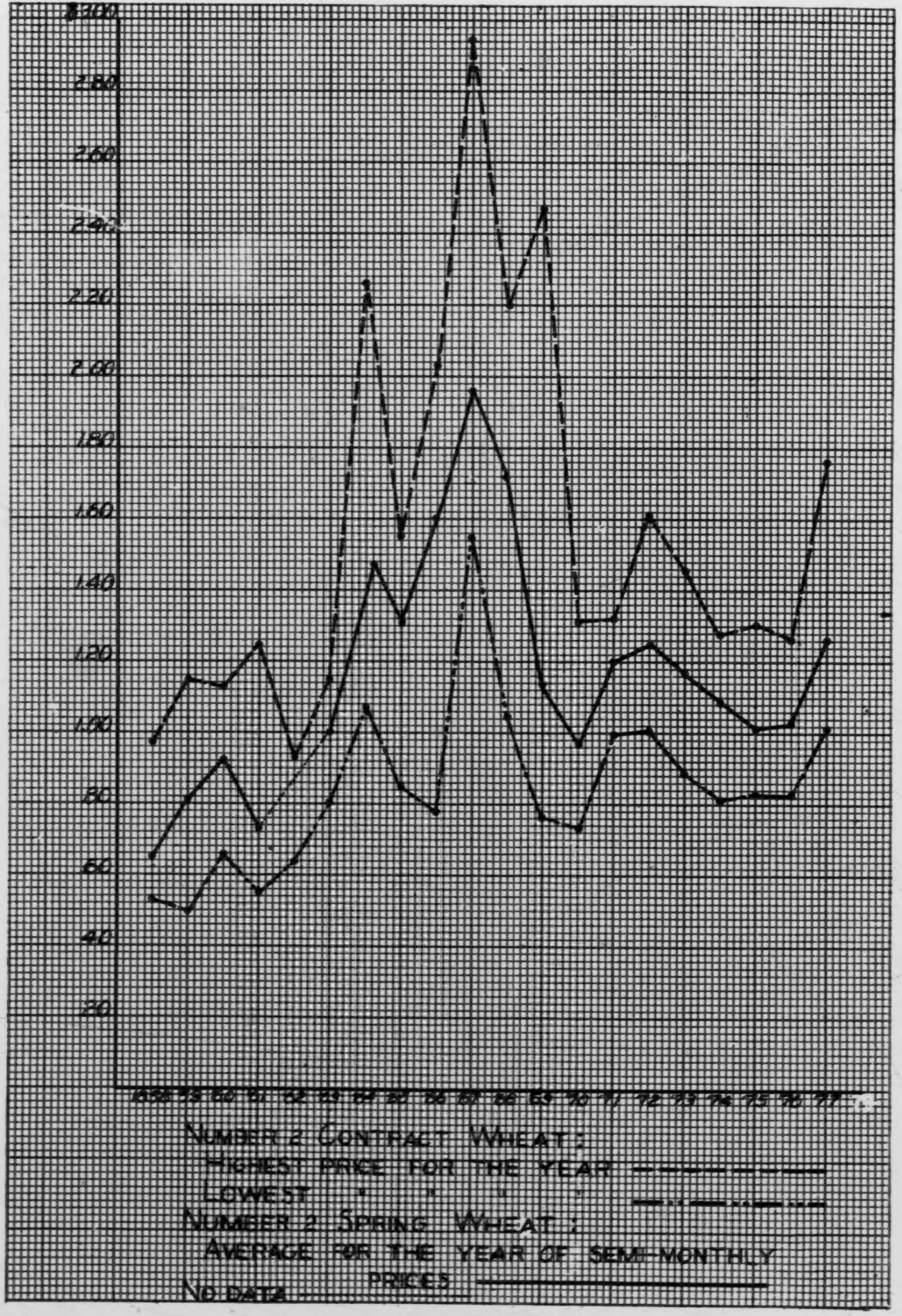

Figure 52. Wheat prices at Chicago, 1858-1877.[3]

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[3] "No. 2 contract," highest and lowest prices for year furnished by Secretary of Chicago Board of Trade. "No. 2 Spring Wheat," yearly average of semimonthly quotations for years 1858-1861 (see *Report Chicago Board of Trade*, 1858, 19; 1859, 41; 1860, 21; 1861, 21); for years 1863 to 1877, "Spring Wheat," grade unspecified (*Ibid.*, 1869, 34; 1876, 52; 1879, 58).

fifties, associated with the Crimean War; though, owing to the lack of quotations from 1854 to 1857, only the last phases of this rise are represented in the diagram (Fig. 53). Up to 1859 the prices were higher in Minnesota than in Wisconsin, presumably because the great influx of settlers compelled the importation of bread stuffs. Thereafter, with the increasing local crop, a decline set in which carried the price below the Madison and Chicago levels.

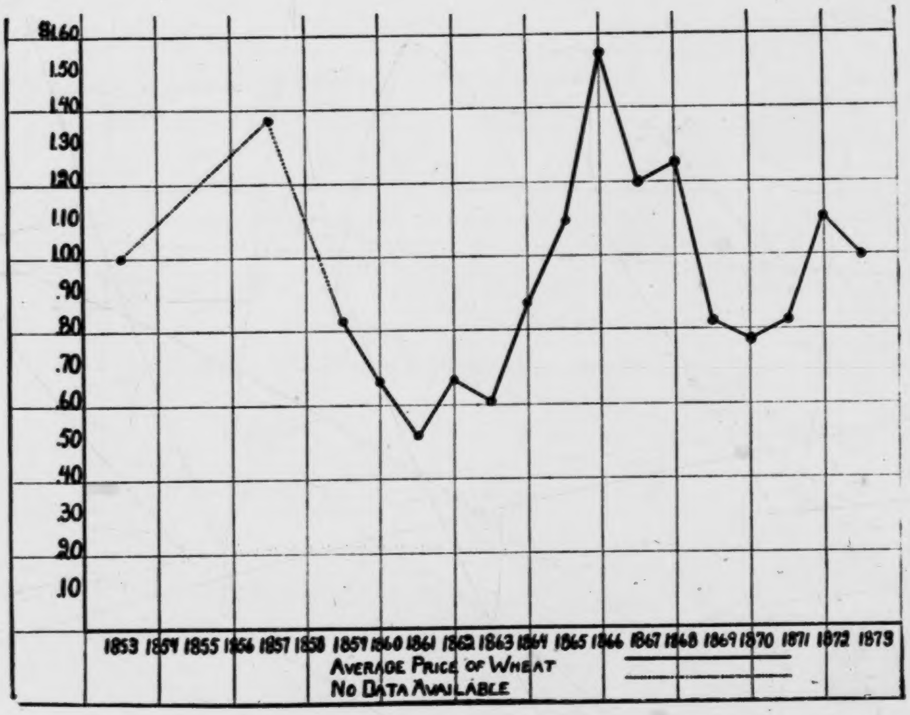

Figure 53. Wheat Prices at St. Paul and Minneapolis, 1853-1873.[4]

In Chicago the Board of Trade in 1858 established the first system of wheat grades, with a view to transportation and merchandizing in bulk. A comparison of these several sets of prices yields some interesting results. The Chicago quotations begin too late to reflect the price movements connected with the Crimean War; but for the later years they reveal the same general tendencies, at a higher level, as the quotations from Madison and St. Paul.

The 1860 crop season

Under the stimulus of rising prices the 1860 crop season showed a further advance of the tendency toward wheat farming revealed by the census for the crop season of 1859. This fact appears clearly in the reports of the local assessors to the state statistician.

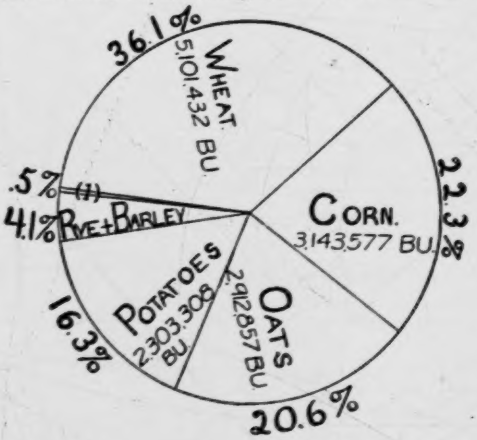

Figure 54. Comparative yield of bushel crops during the 1860 season. (Based on Table V.)

From a comparison of Figs. 50 and 54 it appears that wheat had risen from 21.6 per cent in 1859 to 36.1 per cent in 1860 of the total bushel crops, and that rye and barley had also increased slightly. On the other hand, all the others had declined relatively, this shrinkage being particularly marked in the two crops least capable of profitable shipment, potatoes and corn. Contemporary evidence also indicates that in consequence of the large crops of 1859 and 1860 oats declined in price because, having greater bulk in proportion to value than wheat, they were less readily exported at a profit. This decline in price tended to a further reduction of the relative acreage sown to oats.[5]

These changes were reflected in the export trade of 1860, compared with that of the preceding season, as shown by Table 8.

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[4] Quotations collected from St. Paul and Minneapolis papers by Mr. Stanley Gillam, Research Assistant.

[5] *Ibid.*, 60.

TABLE 8—EXPORTS DURING 1859 AND 1860, EXCLUSIVE OF LUMBER[6]

ITEMS	1859	1860
1. Wheat, bushels	369,625	1,576,666
2. Flour, barrels	114	5,721
3. Rye, bushels	....	8,886
4. Barley, bushels	10,000	19,623
5. Oats, bushels	164,500*	185,195
6. Corn, bushels	41,376*	30,071
7. Potatoes, bushels	123,400	55,941
8. Hides, value	$15,000	$47,981
9. Wool, pounds	7,000	25,887
10. Butter, pounds	3,886	36,272
11. Ginseng, pounds	203,000	285,434
12. Cranberries, bushels	10,300	?
13. Furs, value	$160,000	$186,155
14. Buffalo robes, bales	403	?

The thing which stands out above everything else in the foregoing table is the increased exportation of wheat and flour. Butter, while still a minor item, gave some indication of future possibilities. On the other hand, there was a sharp drop in the shipments of corn and potatoes, and but slight increase in the movement of oats.

Congestion of water routes

Such an increase of shipments soon congested the transportation routes. In the spring of 1860, after the good crop of 1859, shipments began with a rush, indicating a large surplus carried over from the preceding harvest. The crop of 1860 was one of the largest in proportion to acreage ever harvested in the State; and as soon as this began to reach the river, a virtual blockade set in, which continued with greater or less stringency for a number of years. This condition has been graphically described by George B. Merrick, at that time a prominent steamboat man: "On the return trip . . . there was always a more or less assorted cargo, but the mainstay was wheat. . . . There was no question about getting it. Every boat got all the wheat it could carry, and the shippers begged, almost on bended knees, for a chance to ship five hundred sacks, or a hundred, or fifty—any amount would be considered a great favor. Wheat was shipped at that time in two-bushel sacks."[8]

The future development of commercial agriculture in Minnesota evidently depended in large part on the provision of more adequate transportation facilities; in other words, on railroad connection with the outside world. It was, however, not until 1867 that connection was finally established by rail with the Great Lakes at Milwaukee and Chicago (page 38).

Introduction of harvesting machinery

Another factor of commanding influence in the transformation of the self-sufficing type of agriculture into farming for the market was the invention and improvement of agricultural machinery. Considerable beginnings had, indeed, been made before 1860, as shown by the increase in value of agricultural implements manufactured in the United States from $6,842,611 in 1850 to $17,802,514 in 1860.[9] This striking increase was attributed by contemporary writers largely to the interest in such machinery aroused by the first World's Fair at London in 1851, and the subsequent exhibitions at New York in 1853, and at Paris in 1855.[9] The first reapers, of the Manny type, reached Minnesota about 1855, while threshing machines began to be introduced after 1856.[10] It was, however, after the outbreak of the Civil War, which drained away from the fields so much of their labor force, that the agricultural revolution began in earnest—a revolution not less striking and far-reaching in its effects than the industrial revolution which started in England a century earlier. Between 1860 and 1864 not less than 250,000 American reapers were sold,[11] each capable of doing the work of many men with a great saving both in expense and in time. It is obvious that this revolution in agricultural methods tended to extend the acreage sown to small grains, not only because of their lessened cost of production as compared with other crops, but also because a large area could now be harvested during a few days of favorable weather, when otherwise the crop might have been lost, or seriously damaged by storms.

First culmination of wheat growing

In addition to these favoring circumstances there was a constant influx of new settlers. By 1865, in spite of the Civil War and the great Sioux massacre of 1862, the population of the State had risen from 172,022 to 250,099, an increase of more than 15,000 a year or 45 per cent in five years.[12] This increase of population caused a rapid extension of wheat culture up to 1867 despite the congestion of shipping routes.

A second factor in this extension was the crop yield. In 1860 and again in 1865 the average yield of wheat exceeded 22 bushels to the acre; a figure never since approached (Figs. 71, 102). In 1866 and 1867, on the other hand, the crop was decidedly

*Uncorrected total carried forward by the Commissioner of Statistics from the previous report, and inconsistent with items there printed over it. For corrected total, see Table 5

[6] *Ibid.*, 91.

[7] *First Annual Report Commissioner of Statistics, 1860*, 101, 109.

[8] Merrick, George B., *Old Times on the Upper Mississippi*, 169.

[9] *Preliminary Report on the VIII Census*, 61, 97, 99); Flint, C. L., *A Hundred Years' Progress*) Report, U. S. Dept. of Agriculture, 1872); Holmes G. K., *Progress of Agriculture in the United States* (Year Book, U. S. Dept. of Agriculture, 1899); Fowler, *Agricultural Machinery* (Depew, *Hundred Years of American Commerce*, II, 352-386.)

[10] Hill, J. J., *History of Agriculture in Minnesota* (*Minn. Hist. Soc. Coll.* VIII, 228-279); Thomas, *Farm Implements* (1854); Emerson, *Rise and Progress of Minnesota Territory*, (1855), 14, 41.

[11] *Census of Agriculture, 1860*, XXII-XXIII.

[12] *Statistics of Minnesota, 1869*, 64.

light and this partial failure was a prime cause of the relative decline which set in for a time after 1867, rendering that year the first culminating point of wheat growing in Minnesota.[13]

The course of wheat prices during and after the Civil War

A third factor in the extension and fluctuations of wheat farming was the course of wheat prices. During the Civil War there was a rapid rise owing to the withdrawal of many thousands of men from the fields and the beginning of paper money inflation. The highest price quoted at Chicago ($2.95) for No. 2 contract wheat was in May, 1867; but for some reason, not clearly apparent in the records, the highest point both in Minnesota and Wisconsin was reached in 1866 rather than 1867. It may be that the increase of output and congestion of shipping routes in these two states were responsible for this variation. From this high point the decline was equally rapid up to 1870, though not to as low a level as before the war. After a brief rise in 1872 and 1873 prices again dropped back to approximately the level of 1870. This decline in price of course tended to reduce the acreage in wheat after 1867 (Figs. 51, 52, 53).

The reasons for this abrupt drop in the price of wheat were complex. For one thing, the supply of wheat in the country at large had outrun demand, owing to the rapid extension of cultivation west of the Mississippi; and this condition became still more acute when the disbanded armies returned to the farm and factory. Moreover, the country was entering upon the period of falling (paper) prices, accompanying the decreasing discount on paper money, which continued to oppress all lines of industry until the resumption of specie payments in 1879. Finally, the influence of the panic of 1873 may be seen in the sharp drop during the following years.

Transportation charges

Unfortunately the quotations at Chicago are not fully comparable with those in Minnesota, owing to the irregular character of the Minnesota figures prior to 1876. Nevertheless, the difference between them testifies in a general way to the high cost of transportation.

Freight rates by rail, while low compared to the pre-railroad era, were nevertheless high, measured by the reduced market price of the product. In 1868, for example, the rate on wheat from St. Paul to Milwaukee or Chicago was about 30 cents per bushel[14] and in 1869 the average charge by rail per ton per mile was estimated to be 29.8 mills, against 11.4 on canals, 2.9 on rivers, and 2.5 by sea.[15] In 1871 the newly appointed commissioner of railways reported the average charges as 3.6 cents per ton mile on freight and 4.4 cents per mile for passengers.[16]

Relative decline of wheat

As a result of these several influences, there followed, after 1867, a slight reaction toward a more varied crop system. This movement increased the acreage of oats 30 per cent, corn 29 per cent, barley 53 per cent, and potatoes 39 per cent, in 1868 compared to 1867.[17] The effect was to restore oats to nearly the same relative position which it had held in 1860. In spite of this reaction, however, wheat occupied in 1868, 59.7 per cent of all cultivated land, against 53.4 per cent in 1860 (Fig. 55). Moreover, notwithstanding the severe drought of July, 1868 (Fig. 70), which affected the wheat crop more seriously than any other except oats, wheat amounted to 49.19 per cent of the total bushel crops in 1868,[18] against 36.1 per cent in 1860 and 21.6 per cent in 1859.

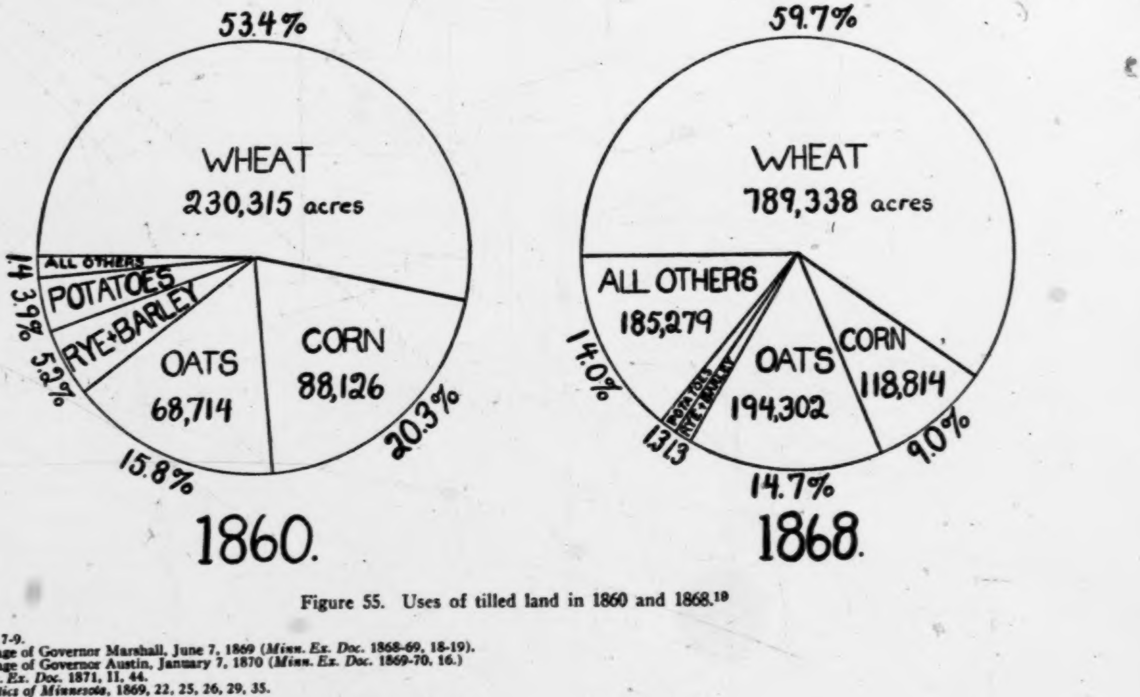

Figure 55. Uses of tilled land in 1860 and 1868.[19]

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[13] *Ibid.*, 7-9.

[14] Message of Governor Marshall, June 7, 1869 (*Minn. Ex. Doc.* 1868-69, 18-19).

[15] Message of Governor Austin, January 7, 1870 (*Minn. Ex. Doc.* 1869-70, 16.)

[16] *Minn. Ex. Doc.* 1871, II, 44.

[17] *Statistics of Minnesota*, 1869, 22, 25, 26, 29, 35.

[18] *Ibid.*, 6.

[19] *Ibid.*, 1861, 54; 1869, 7. For corrections of arbitrary additions, see 1871, 5-15.

Development of stock husbandry, 1860-1869

During the Civil War the great demand for wool coupled with tariff changes caused active speculation in sheep, resulting in an increase from 13,044 in 1860 to 97,241 in 1864 and 193,045 in 1866, when the movement culminated. Thereafter, the number declined to 135,450 according to the state returns for 1869 (Table VI). This rapid decline of sheep farming (Fig. 56) was due not merely to the slackening of demand after the war, but also to the same general decline of prices which affected adversely specialized wheat farming. The number of cattle varied inversely with sheep, declining when sheep increased and increasing when sheep declined.

Population according to the census of 1870

After the close of the Civil War immigration to Minnesota again became very active, rising as high as 40,000 or possibly 50,000 in a single year. During the decade 1860-1870 the population increased from 172,023 to 439,706, a gain of 267,683 or 156 per cent. Compared to the population shown by the State census of 1865 (250,099), the increase during the last half of the decade was 189,607, or 37,921 per year. By no means all of this increase, however, went to the country. There were eleven municipalities in 1870, each having at least 2,500 inhabitants, against three in 1860. With the exception of Duluth, all of them lay south of Stillwater and east of Mankato; and all except Rochester and Faribault were situated on navigable waterways. This southeastern section accessible to the Minnesota, St. Croix, and the Mississippi below the Sauk Rapids, contained more than fourfifths of the population.

The country population, amounting to 327,698 persons, showed a similar localization as appears from the map of the distribution of population outside of incorporated places (Fig. 58). North and west of the Sauk Rapids the principal settlements were in Stearns and Douglas counties; that is to say, in the hardwood belt along the route to the Red River Valley.

Comparing the distribution of population in 1860 (Fig. 40) and 1870 (Fig. 57) with the map of original forest areas (Fig. 8), it appears that the country population, even aside from trappers and lumbermen, persistently clung to the hardwood zone, venturing out upon the open prairies only with reluctance and for the most part after the hardwood region had entirely passed into private ownership. The same thing had happened in Illinois, Wisconsin, and other states on the border between woodland and prairie. The reason was partly ignorance, which led many to argue that the prairie soil must be inferior, since it would not grow trees. Others were deterred by the unfamiliar aspect of the country, especially the lack of windbreaks. In the main, however, the cause for the slow settlement of the prairies was the lack of transportation facilities and of fuel. The prairies lay mostly at a distance from the waterways, which imposed heavy expense for haulage; and in a climate such as that of Minnesota the lack of wood for building and especially for fuel presented a very serious problem.[21] In fact in Minnesota, as twenty years before in Illinois, it was only the coming of the railroad which made the prairies habitable.[22] For this reason, comparatively little progress had been made up to 1870 in settling the prairie section of Minnesota. This was for the most part the work of the years from 1870 to 1900.

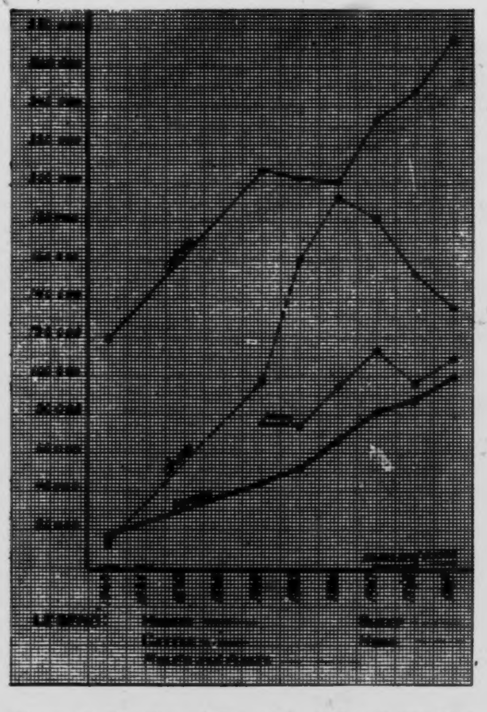


Figure 56. Number of live stock, 1860 and 1864-69.[20]

Distribution of agriculture according to the census of 1870

The crop season of 1869, represented in the census of 1870, was cold and wet, with unseasonable storms especially at harvest time[23] (Figs. 69, 70). As a result there was a lower yield on heavy clay soils and a higher yield on the lighter soils east of the Mississippi, than the average. The damage at harvest time was greatest in the case of wheat and oats; though oats, being better adapted to a cool and moist climate, nevertheless proved a heavy crop.

The greatest density of wheat growing was in the two tiers of counties west of the Mississippi and south of the Minnesota (Fig. 59); and this in spite of the fact that weather conditions were favorable to sandy soils. The crop was small east of the Mississippi, except in Washington County.

Oats covered substantially the same counties (Fig. 60). There was, however, less concentration in the counties adjacent to navigable waterways, since this crop mostly supplied local consumption.

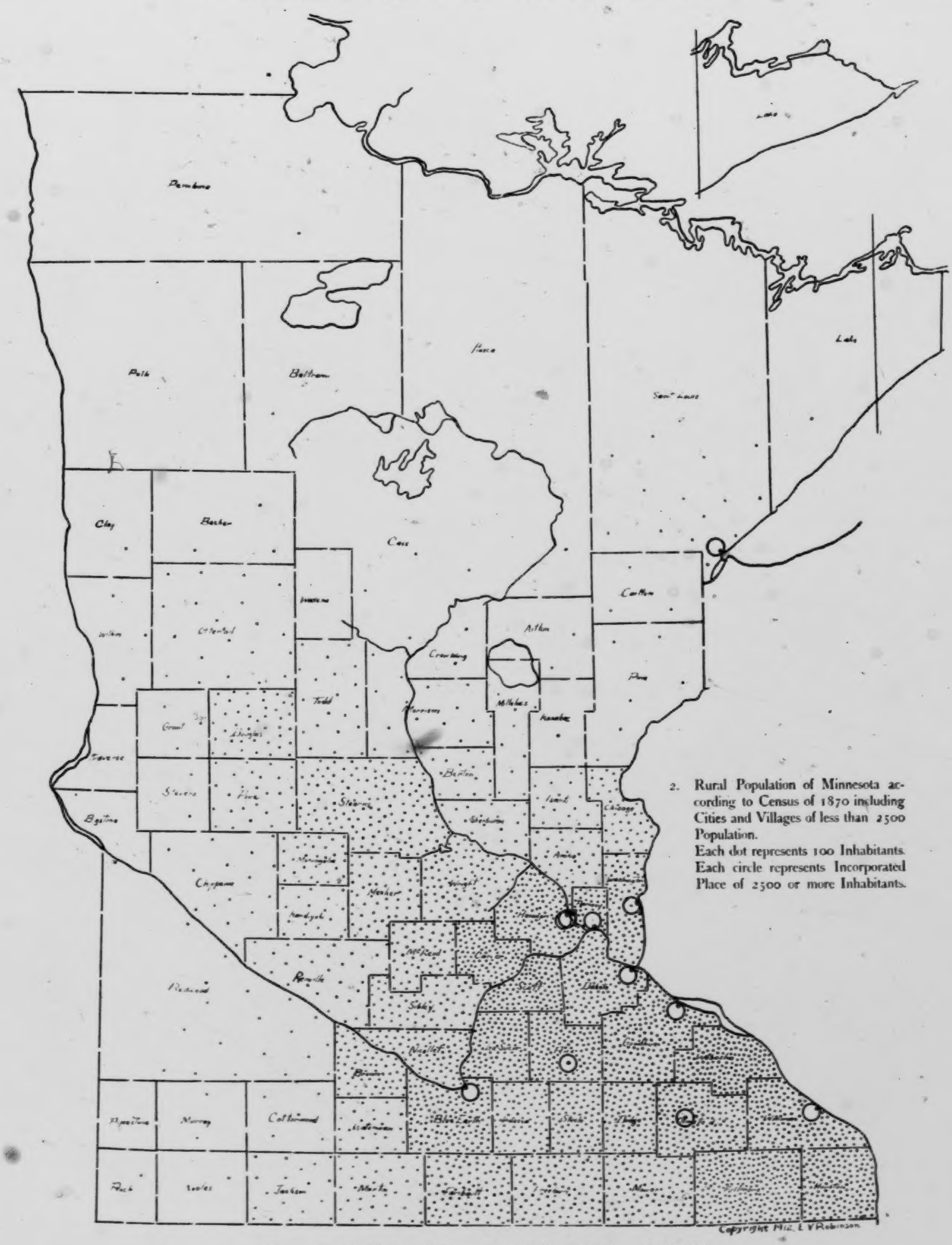
Barley, another market crop, had its center of production in the same tier of southeastern counties as wheat (Fig. 61); while rye, reduced to insignificance by the spread of wheat growing, was found on somewhat lighter soils, especially north of the Minnesota (Fig. 62). Corn and potatoes, also grown mostly for local use, followed closely the distribution of country population (Figs. 63, 64). The same thing was true of the distribution of hay and dairy cows, though a slight tendency to concentration near the cities may be noted (Figs. 65, 66). All of the products serving local consumption were relatively well represented east of the Mississippi. Measured by aggregate value of farm products, which was reported for the first time in 1870,

[20] From U. S. Census for 1860; *Minn. Statistics*, 1869, 44, for years 1864-69. Owing to the break between the first and second series of *Statistics of Minnesota*, no figures are available for the years 1861-63 inclusive.

[21] *Statistics of Minnesota*, 1878, 50.

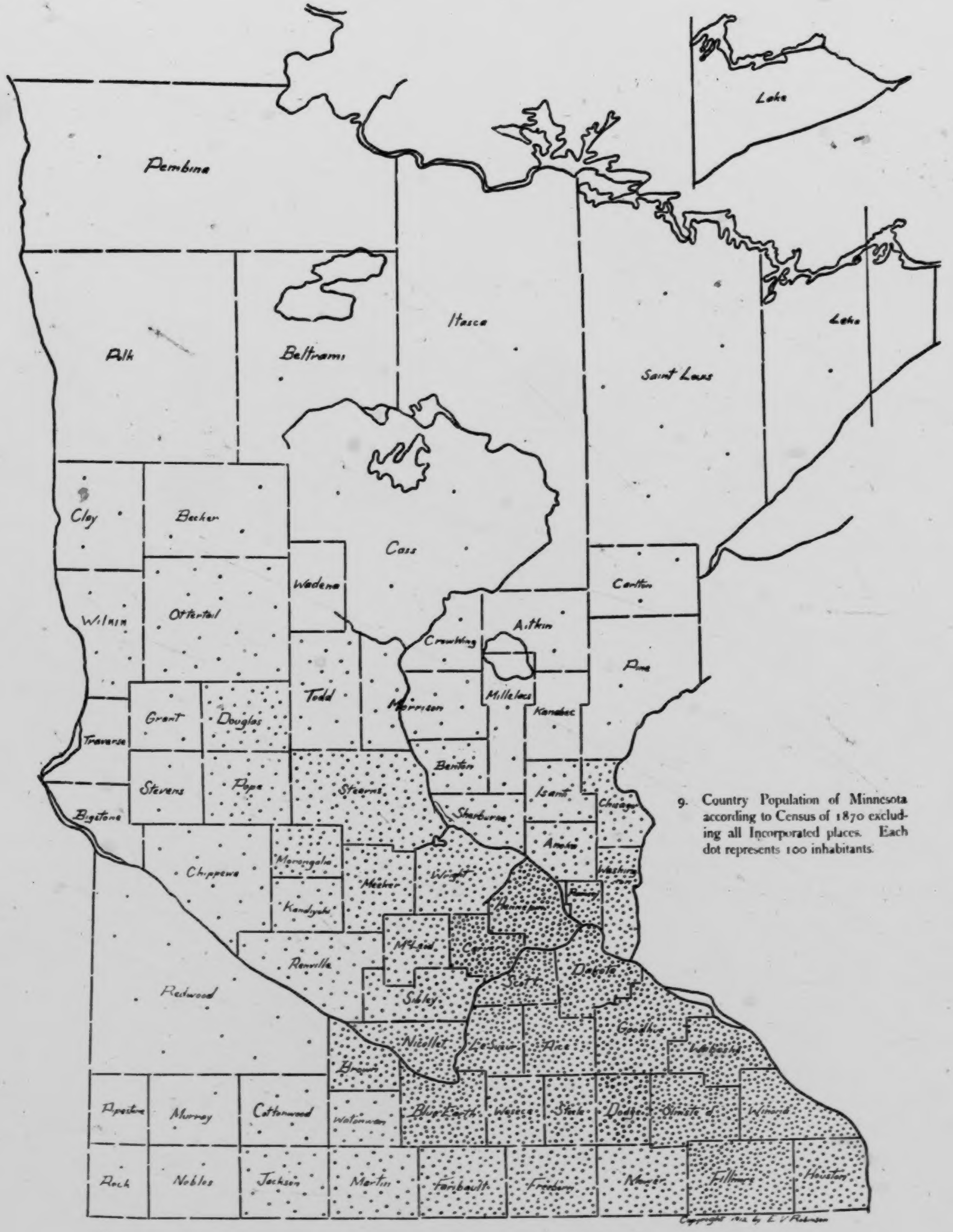
[22] *Illinois Geol. Survey*, Bul. 15.

[23] *Statistics of Minnesota*, 1869, 18-19. McClung, J. W., *Minnesota As It Is in 1870*, 101.


Pembina
Polk
Beltrami
Itasca
Saint Louis
Lake
Clay
Becker
Cass
Wadena
Carlton
Wilkin
Otter Tail
Crow Wing
Aitkin
Pine
Todd
Mille Lacs
Kanabec
Grant
Douglas
Morrison
Traverse
Stevens
Pope
Stearns
Benton
Isanti
Chisago
Big Stone
Sherburne
Anoka
Monongalia
Chippewa
Meeker
Wright
Kandiyohi
McLeod
Renville
Redwood
Sibley
Scott
Dakota
Nicollet
Brown
Pipestone
Murray
Cottonwood
Blue Earth
Watonwan
Rock
Nobles
Jackson
Martin
Faribault
Copyright 1912 L V Robinson

2. Rural Population of Minnesota according to Census of 1870 including Cities and Villages of less than 2500 Population.
Each dot represents 100 Inhabitants.
Each circle represents Incorporated Place of 2500 or more Inhabitants.

Figure 57. Population of Minnesota in 1870. (Based on Table XI)


Lake
Pembina
Itasca
Polk
Beltrami
Saint Louis
Lake
Clay
Becker
Cass
Wadena
Carlton
Wilkin
Ottertail
Crow Wing
Aitkin
Pine
Todd
Morrison
Mille Lacs
Kanabec
Grant
Douglas
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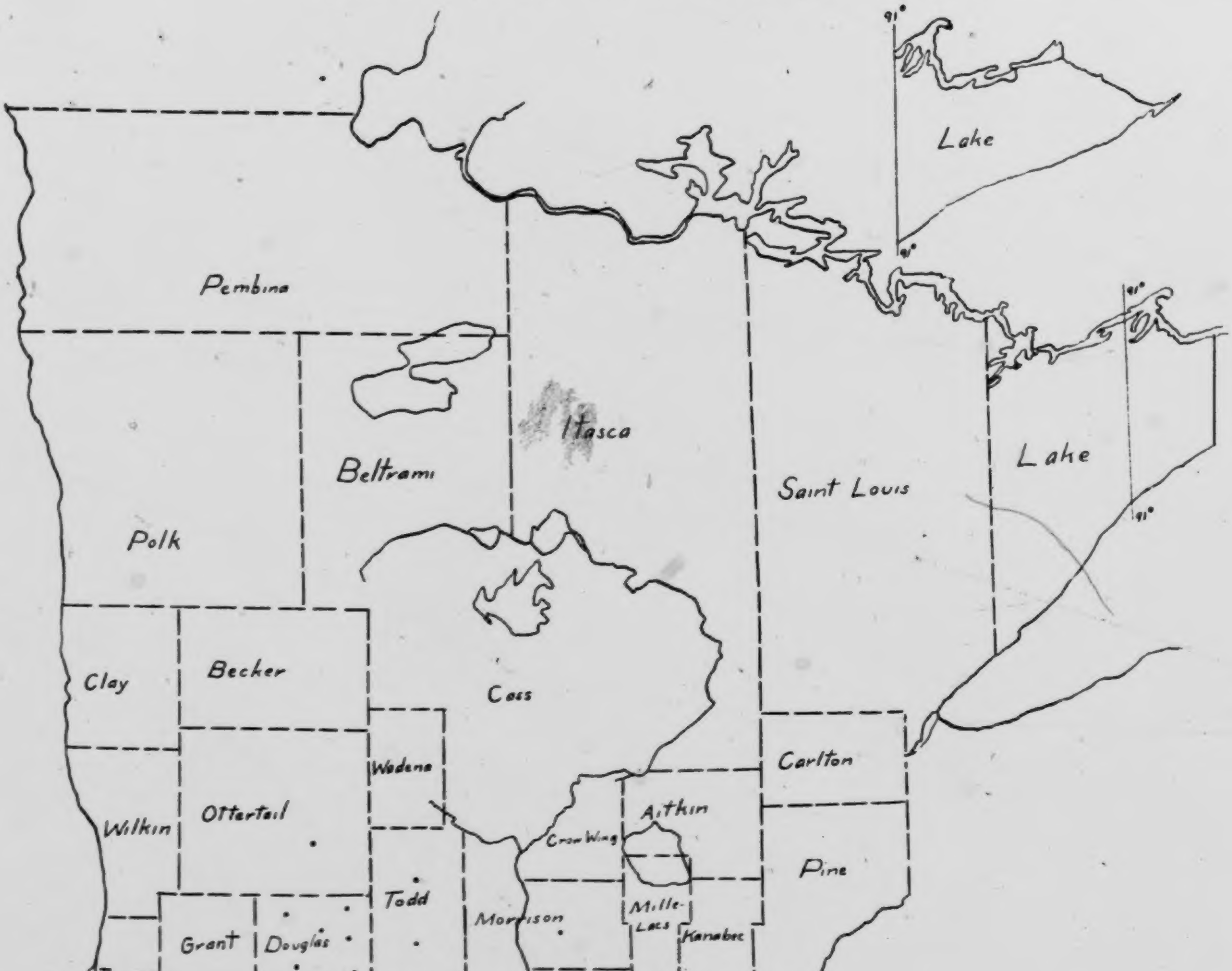
9. Country Population of Minnesota according to Census of 1870 excluding all Incorporated places. Each dot represents 100 inhabitants.

Figure 58. Country population of Minnesota in 1870. (Based on Table XI)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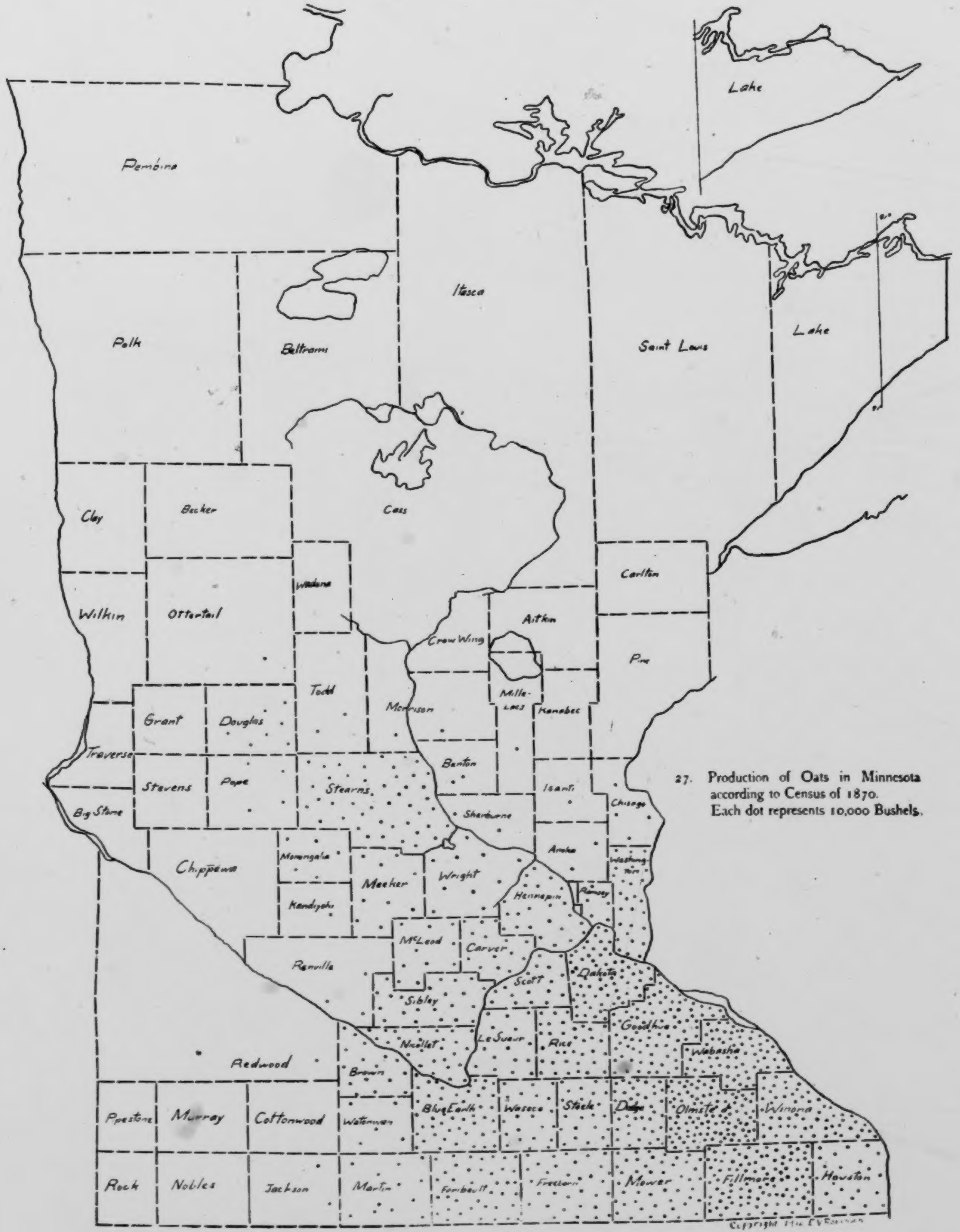
15. Production of Wheat in Minnesota according to Census of 1870.
Each dot represents 10,000 Bushels.

Figure 59. Production of wheat in 1869 according to census of 1870. (Based on Table XIII)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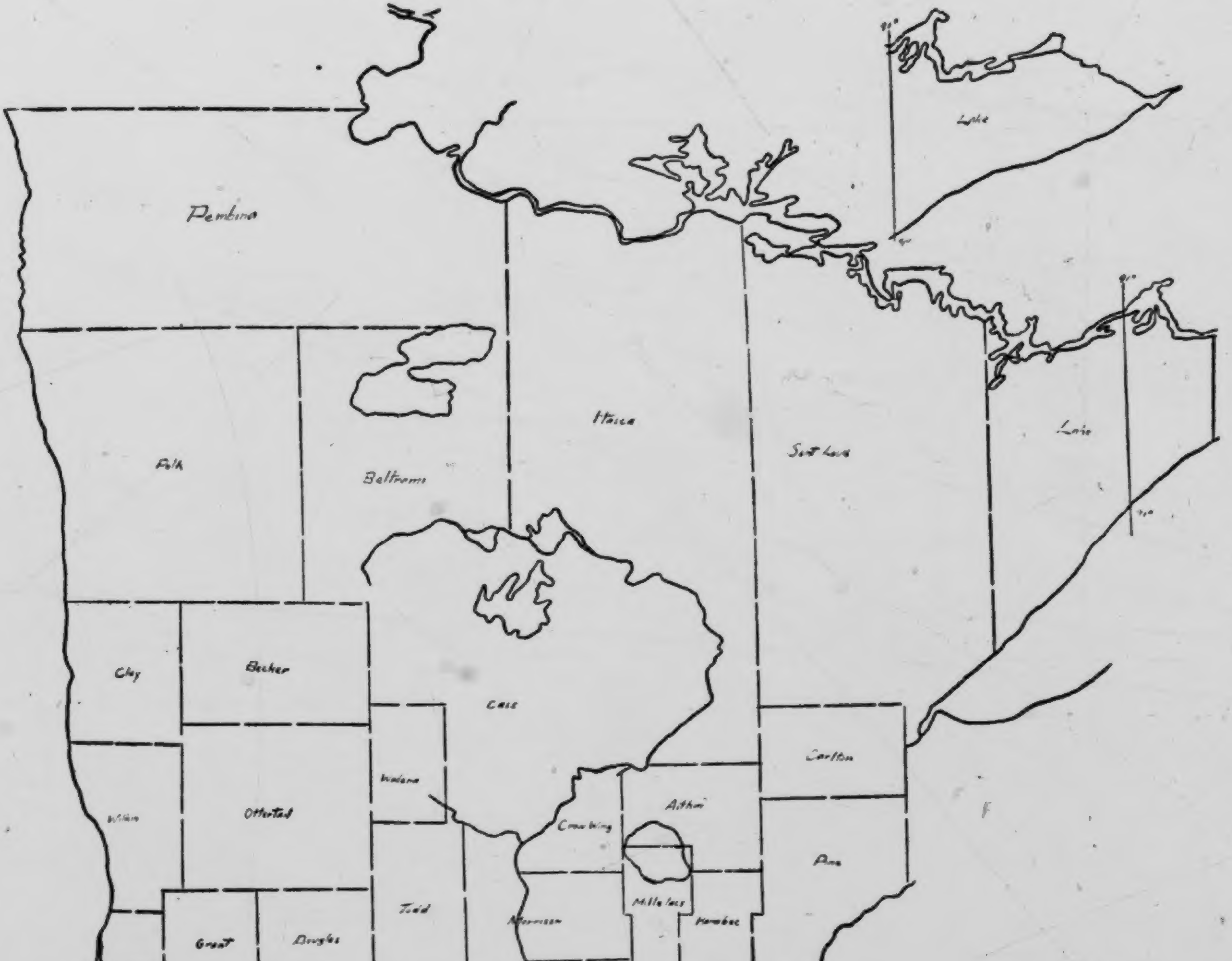
27. Production of Oats in Minnesota according to Census of 1870. Each dot represents 10,000 Bushels.

Figure 60. Production of oats in 1869 according to the census of 1870. (Based on Table XIV)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33. Production of Barley in Minnesota according to Census of 1870. Each dot represents 10,000 Bushels.
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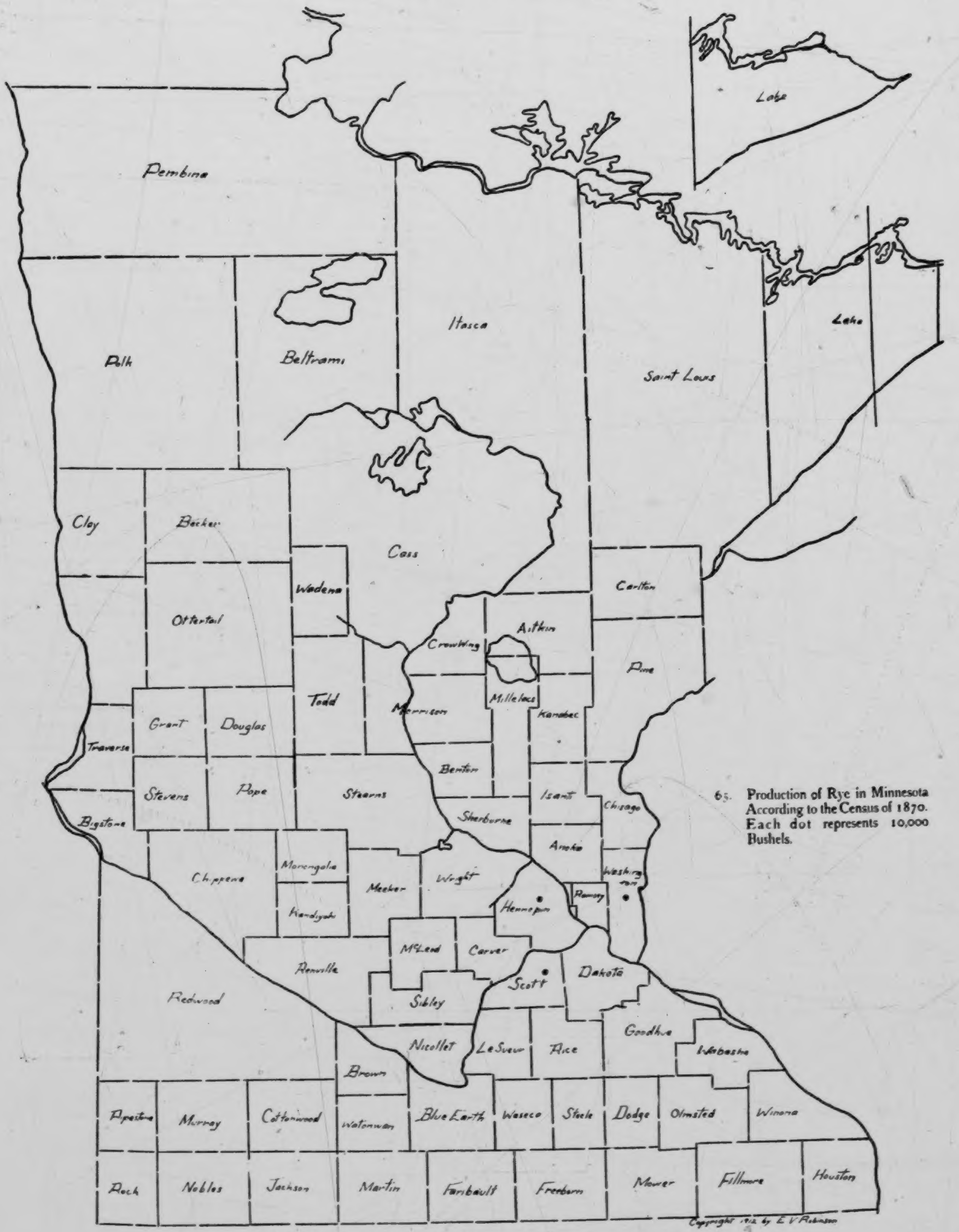
Figure 61. Production of barley in 1869 according to the census of 1870. (Based on Table XVI)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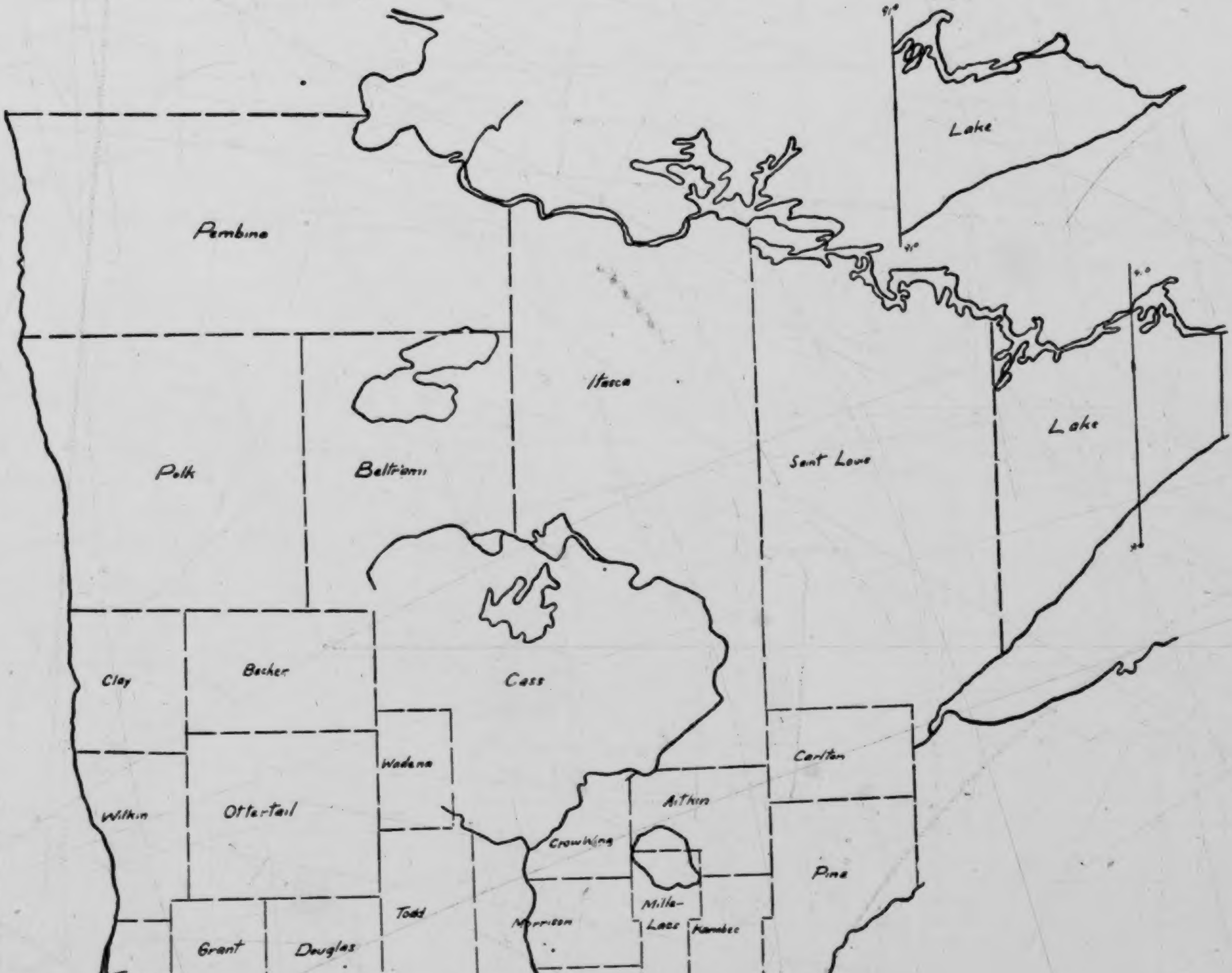
65. Production of Rye in Minnesota According to the Census of 1870. Each dot represents 10,000 Bushels.

Figure 62. Production of rye in 1869 according to the census of 1870. (Based on Table XVII)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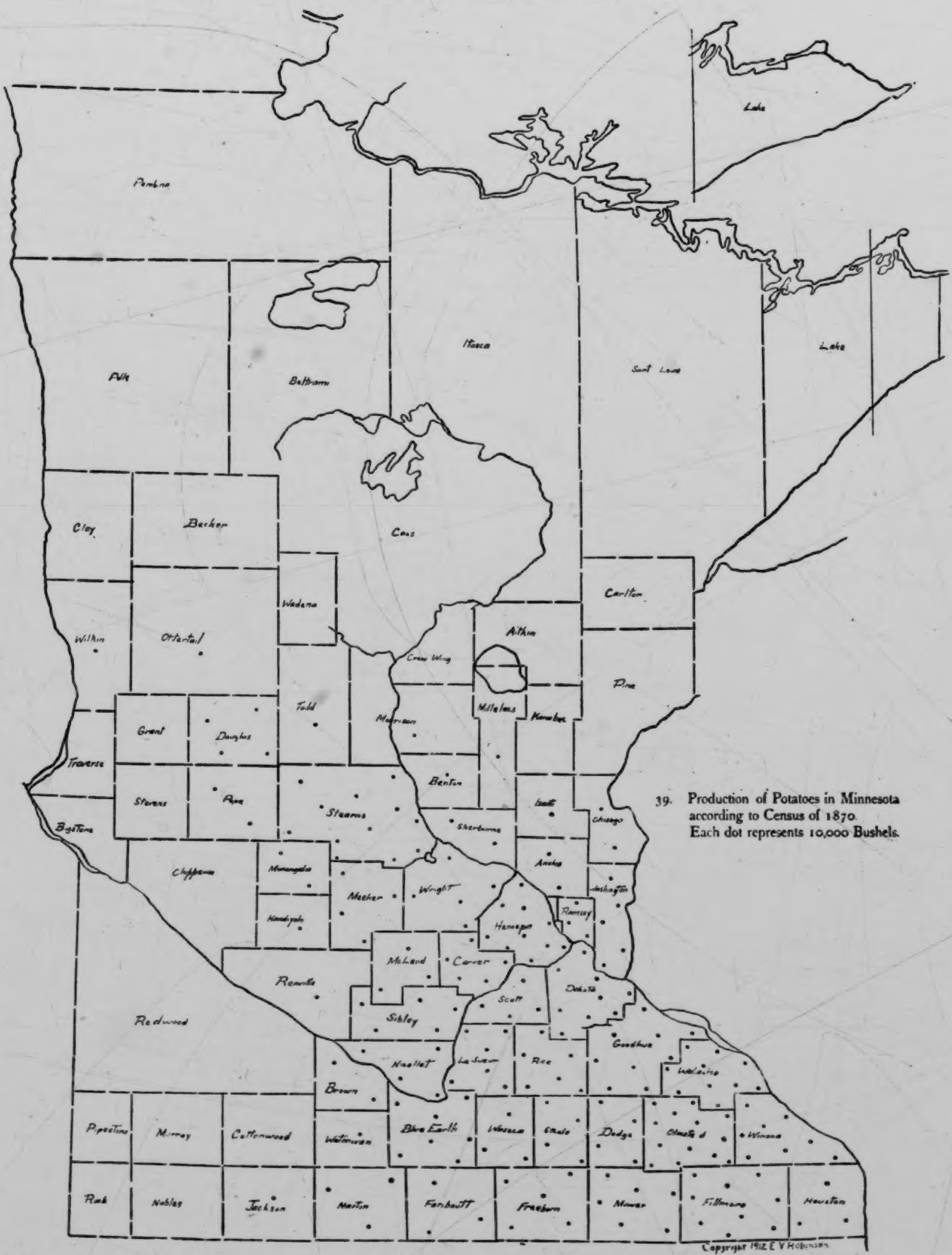
21. Production of Corn in Minnesota according to Census of 1870. Each dot represents 10,000 Bushels.

Figure 63. Production of corn in 1869 according to the census of 1870. (Based on Table XV)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39. Production of Potatoes in Minnesota according to Census of 1870. Each dot represents 10,000 Bushels.

Figure 64. Production of potatoes in 1869 according to the census of 1870. (Based on Table XVIII)

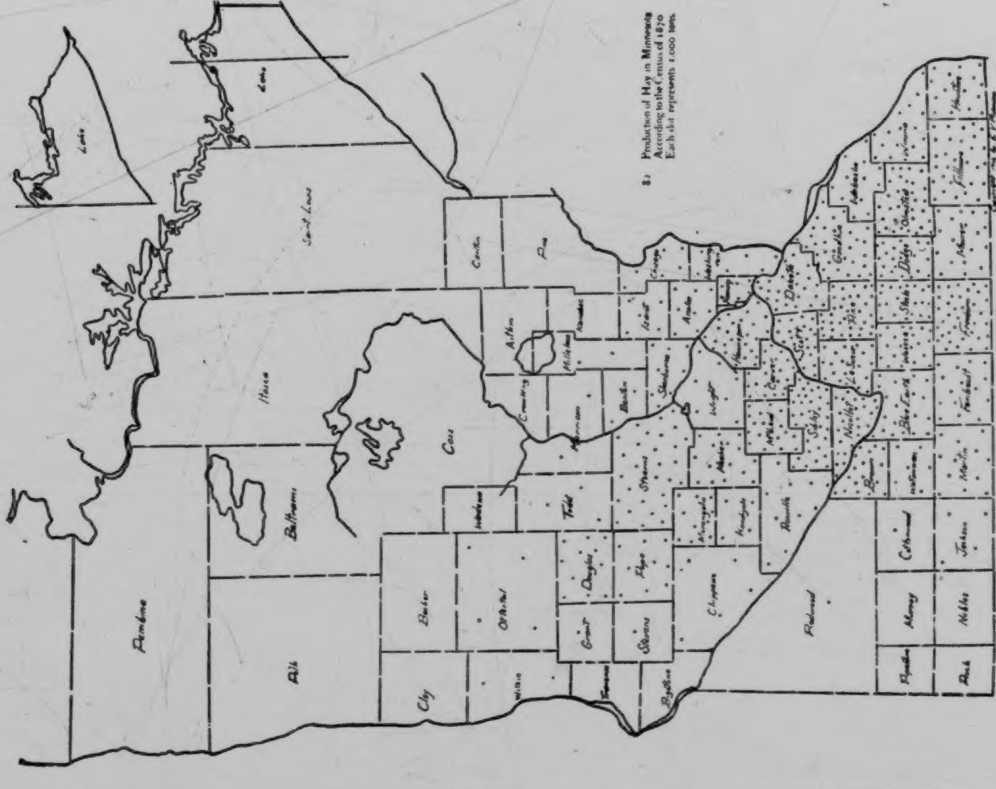

Production of Hay in Minnesota
According to the Census of 1870
Each dot represents 1,000 tons.

Figure 65. Production of hay in 1869, according to the census of 1870. (Based on Table XXII)

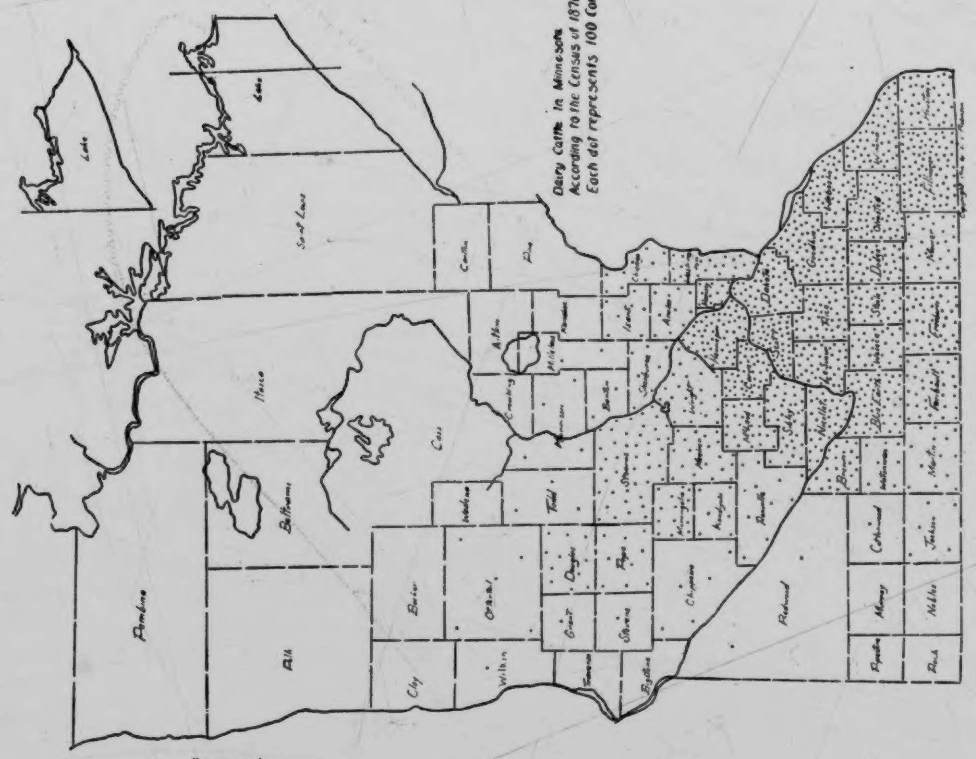
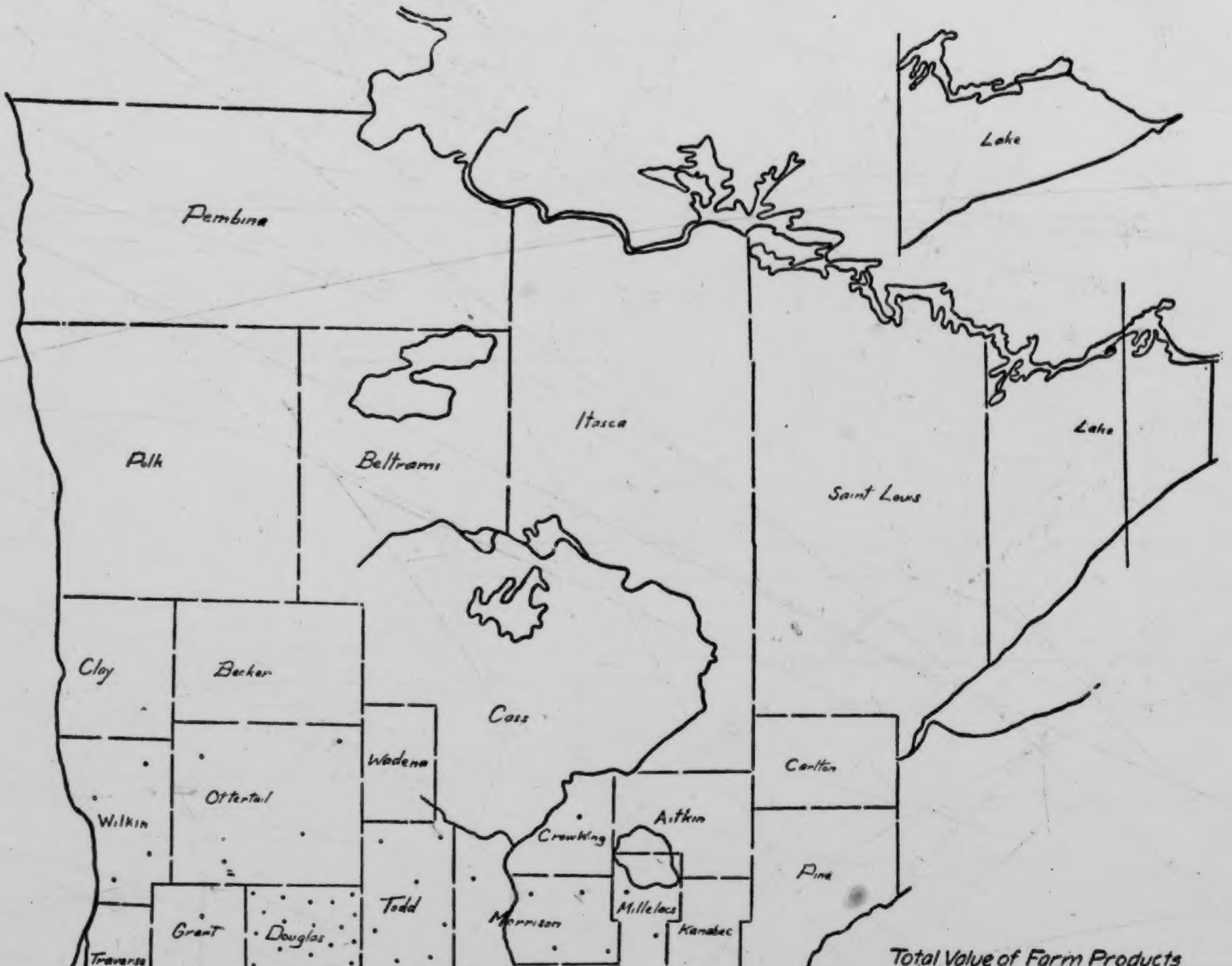

Dairy Cattle In Minnesota
According to the Census of 1870
Each dot represents 100 Cows.

Figure 66. Distribution of dairy cows on farms according to the census of 1870. (Based on Table XXIV)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Total Value of Farm Products According to Census of 1870 Each dot represents $10,000
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Figure 67. Total value of farm products in 1869 according to the census of 1870. (Based on Table XXXV)

agriculture had developed chiefly south of Anoka and east of Brown County, with a marked concentration along the Mississippi and Minnesota rivers (Fig. 67).

Summary of development, 1860-1870

The development of agriculture during the decade is clearly shown by Table 9 at the end of this chapter, giving the totals from the census of 1860 and that of 1870, with corrections to correspond to the true footings of the county items in the census volumes for 1860.[24] For the sake of a clearer analysis, there are added the percentage of change for each item, the relation which it held to the total country population at each census year, and the differences in values for 1870 if calculated on a gold basis.

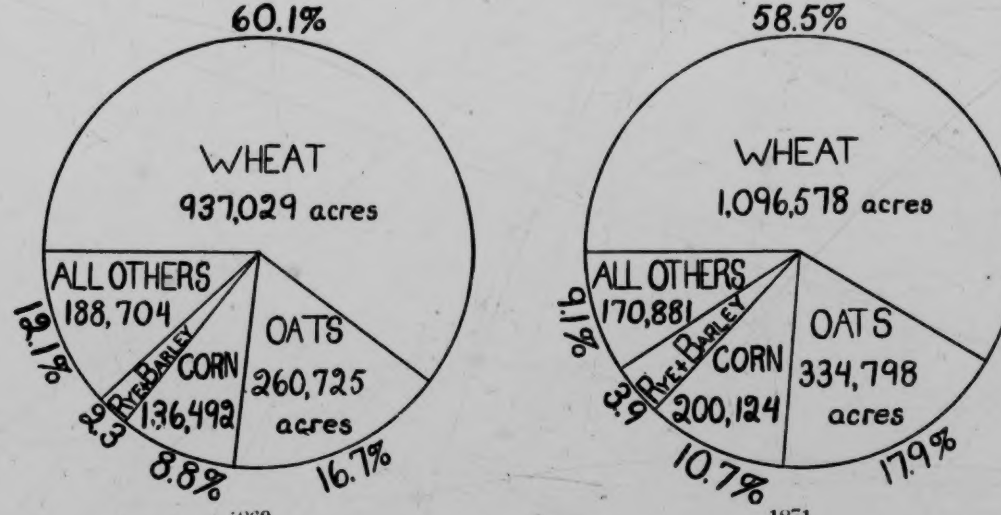
The total population increased during the decade 1860-1870 from 172,023 to 439,706, or 155.7 per cent; while country population grew from 122,530 to 327,698, or 167.4 per cent. Town population, on the other hand, increased only from 49,493 to 112,008. At that time the attraction of free agricultural land was evidently stronger than the lure of the city.

During the same decade the number of farms rose from 17,999 to 46,500 and their average size decreased from 150.7 to 139.4 acres. Moreover, unimproved land in farms increased 93.1 per cent, while improved land increased 317.2 per cent, or more than three times as fast. For each 100 of country population there was consequently less unimproved land in farms in 1870 than 1860, while, on the other hand, there were 708.6 against 4541.0 acres of improved land. It follows, therefore, that, in spite of the movement of population westward, the principal agricultural development of the decade was a more complete use of land, the average improved acreage per farm being 49.9 in 1870, against 30.9 in 1860 (Table 9).

Wheat showed by far the most striking increase, from 2.2 to 18.9 million bushels; or from 17.8 to 57.6 bushels per capita of the country population. Oats, while falling far behind this rate, nevertheless increased from 17.7 to 32.5 bushels per capita of the country population. Barley and flaxseed exceeded even wheat in their ratio of increase but still remained minor crops, closing the decade with 3.1 and .057 bushels respectively per capita of the country population. All other bushel crops lost ground relatively to population and most of them absolutely.

During this period several minor crops attracted considerable attention, without however attaining real importance. During the Civil War, when supplies of southern sugar were cut off, many farmers began to grow sorghum for the manufacture of syrup. Hop culture also spread from Wisconsin into Minnesota, reaching its maximum about 1869, after which there was an abrupt decline.[25] Flax fiber was grown experimentally but remained without serious effect on the crop system. More important was the development of fruit growing. Apple orchards had been extensively planted, especially in the Lake Minnetonka district and on the hillsides along the Mississippi; and in 1869 for the first time these yielded a crop approximating 10,000 bushels.[26]

All kinds of live stock on farms increased more rapidly than country population, except swine and working oxen. Both of these increased absolutely but lost relatively; swine owing to the limited corn crop, working oxen because they were being supplanted by horses and mules. The percentage of increase was greatest in the case of sheep, though the census year did not coincide with the culmination of sheep farming (Fig. 56). Wool increased more than twice as fast as sheep, indicating the introduction of better breeds. The most significant increase, all things considered, was in milch cows, from 40,444 to 121,467; or from 33 to 37.1 for each 100 of the country population. Accompanying this increase in cows was a more rapid gain in butter. Cheese, on the contrary, showed but little change in amount, consequently declining relatively to the country population. This change was in the direction of economic advantage, since the production of good cheese involves more technical skill than the production of butter, and is consequently more difficult upon the farm. In order to overcome this difficulty cheese factories began to be established at the end of the decade, in 1869 and 1870.[27]



1869 1871

Figure 68. Uses of tilled land in 1869 and 1871.[28] (Based on Table IX)

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[24] Corrected total to agree with the county items in the census.

[25] From 283,335 pounds as reported in the state statistics for 1869 (or 222,065 according to the census of 1870), the yield fell to 64,243 in 1871 (*Statistics of Minnesota*, 1872, 25; 1873, 189). For 1879 the census reported only 10,928 pounds.

[26] *Statistics of Minnesota*, 1869, 47; 1870, 16; 1873, 205.

[27] *Ibid.*, 1870, 31.

[28] After deducting the arbitrary additions made by the commissioner for 1869. (See *Statistics of Minnesota*, 1870, 15; 1871, 5-13; 1872, 7-10).

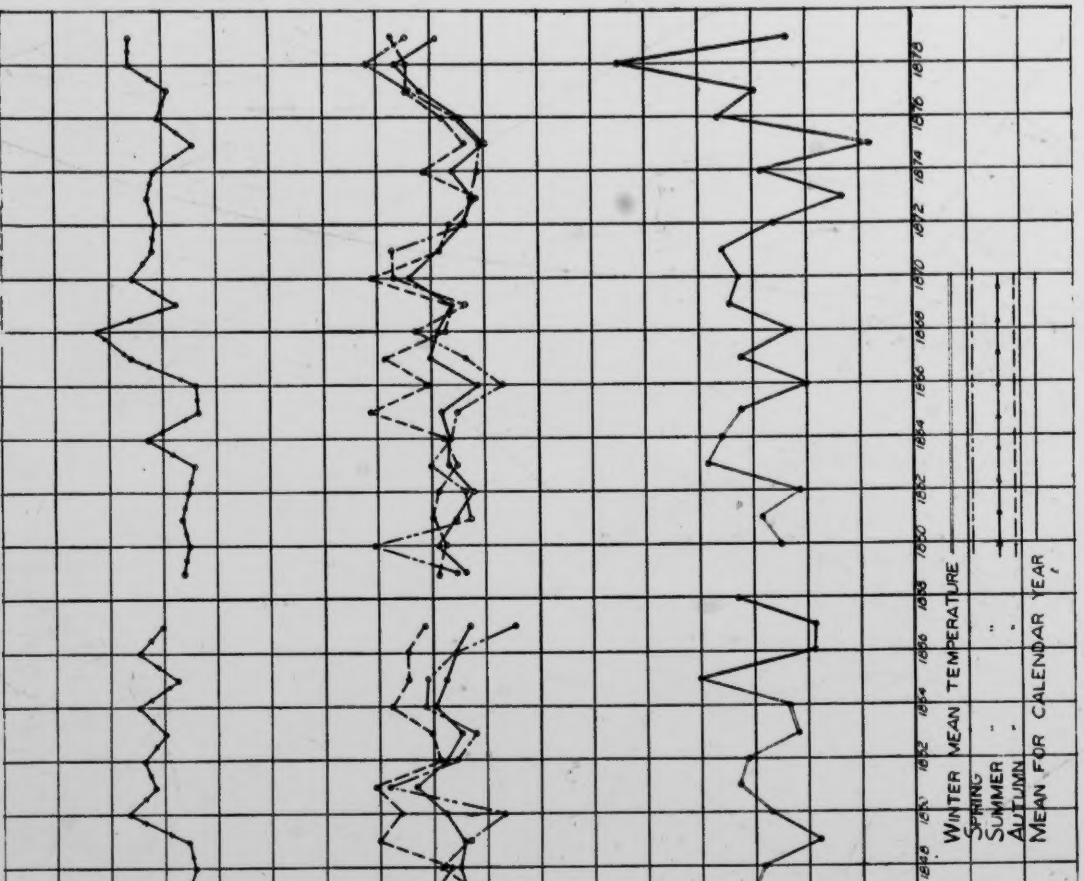

Figure *69*. Seasonal and annual temperatures at Fort Snelling, St. Paul and vicinity, 1837-1879.*

*Data furnished by U. S. Weather Bureau at Minneapolis. "Annual" means calendar year; "winter," Dec., Jan., Feb.

First movement toward mixed farming

The value of farms increased more rapidly than the country population or the land in farms, reflecting the greater proportion of improved land as well as the depreciation of the currency (Figs. 208-211); the value of live stock mounted up nearly twice as fast, and the value of implements considerably more than twice as fast, as the value of land. This rapid gain in live stock indicates the beginning of a more varied type of agriculture in some of the older districts; while the increase in implements testifies to the progress of farming by machinery (Table 9, Figs. 204, 209, 210).

If values in 1870 are reduced to a gold basis by discounting currency values 20 per cent, as suggested by the census, the total value of land and buildings for the State still increased more rapidly than during the preceding decade, owing to the large increase of farm land and population. On the other hand, there was a very moderate increase in gold value per capita of the country population, per farm, and per acre in farms; while the decline in value of farms, per acre of improved land, became correspondingly more rapid. This failure of farms to advance in value as fast as they were improved was the first indication of approaching depression in agriculture (Table 9, items 53-55; Figs. 209, 211).

Acreage figures for the several crops were not collected by the federal census before 1880. From the state figures, however, it appears that the total tilled area in 1869, used in growing the crops reported by the census of 1870, was 1,559,073 acres, against 345,000 acres in the crop season of 1859.[29] The distribution of this area between the several crops in 1869 appears from Fig. 68.

Comparing 1869 with 1871, it is seen that wheat gained absolutely but continued to lose relatively, reaching the lowest point since 1863 in the year 1871, presumably as a result of the low wheat prices of 1870 (Fig. 53). Oats, corn, and barley, on the other hand, all made a considerable gain. Potatoes continued to lose in relative acreage as they had done since the appearance of the Colorado potato bug.[30]

Weather conditions, insect attacks, and crop yields, 1859-1879

During the later sixties and early seventies, not only was the price of wheat sagging with the increase of the aggregate supply in the country and with the falling discount on paper money, but the bonanza yields of 1860 and 1865 were not repeated. Contemporary writers generally laid the blame on the weather. In 1868, they said, the weather was too hot; in 1869, it was too cold and wet, especially for wheat; in 1870, again, it was hot and dry; in 1871, it was cold at seeding time but hot and dry in May and June.[31] The seasons of 1872 and 1873 were admitted to be fairly favorable, and 1874 passed without serious complaint; but in 1875 again late frosts damaged the corn, while hot weather in the growing season and heavy rains during harvest injured the wheat; in 1876 hot weather was again responsible for a part of the heavy loss; finally, in 1878, wheat "blighted" extensively in the southern and central parts of the State.[32] It may therefore be worth while to see what the records show on this point. For the period from 1837 to 1879 the seasonal temperature and precipitation at Fort Snelling, St. Paul, and vicinity were as shown in Figs. 69 and 70.

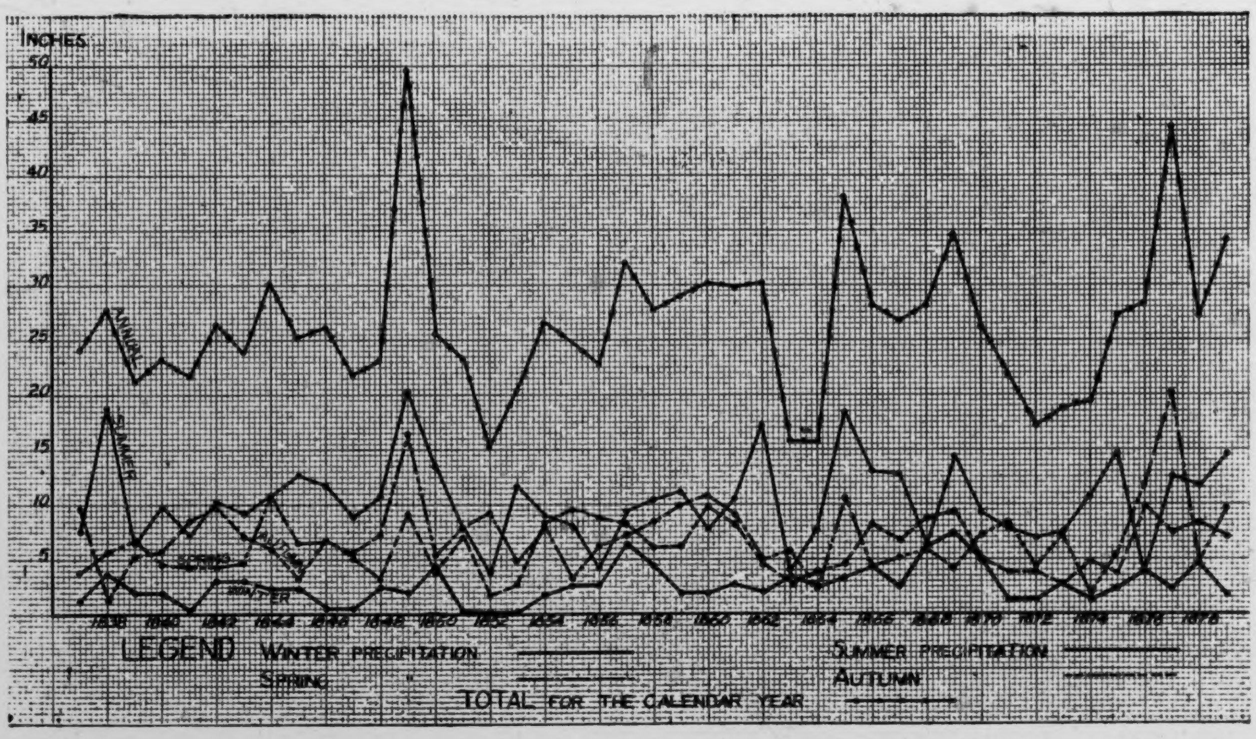

Figure 70. Seasonal and annual precipitation at Fort Snelling, St. Paul and vicinity, 1837-1879.[33]

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[29] After deducting the arbitrary additions made by the commissioner for 1869. (See *Statistics of Minnesota*, 1870, 15; 1871, 10-13; 1872, 7-10).
[30] *Ibid*, 1870, 28-29.
[31] *Ibid.*, 1869, 14-15; 1870, 18-19; 1871, 16; 1872, 5-8; 1874, 7; 1876, 17; 1877, 17; 1879, 21.
[32] *Ibid.*, 1869, 14-15; 1870, 18-19; 1871, 16; 1872, 5-8; 1874, 7; 1876, 17; 1877, 17; 1879, 21.
[33] Data furnished by U. S. Weather Bureau at Minneapolis. "Annual" means calendar year; "winter," Dec., Jan., Feb.

These diagrams substantiate in a measure the claims of considerable fluctuation in seasonal weather conditions, as may be seen by comparing the lines of precipitation and temperature for the summer season. The severe winters of 1872-73 and 1874-75[34] also left their mark in the records, as shown by the curve of winter temperature.

In addition to unfavorable weather conditions crops were seriously damaged by insects. The Colorado potato beetle began serious ravages in Minnesota about 1868. After settlement reached the prairie districts, particularly from 1863 on, the western counties were invaded by locusts, commonly called grasshoppers. At times the swarms darkened the sky and consumed every particle of green vegetation in their course. The damage from this cause was greatest from 1872 to 1877, the worst year being 1876.[35] Thereafter, their attacks lessened as more effective means of combating them were devised, especially the practice of deep fall-plowing. No sooner was the hopper plague under control than the chinch-bug, which had caused great loss in southern Wisconsin during the Civil War, made its appearance in force in the southeastern corner of Minnesota, destroying two fifths of the crop in Houston County in 1877 and spreading toward the west and north, season by season.[36] As a result of these unfavorable conditions, crop yields became highly irregular and tended on the whole to decline, the lowest yield for most crops being in the season of 1876.

As will be seen from the diagram (Fig. 71), the average yield of wheat fell from 22 bushels in 1860 and 1865 to 17.9 bushels in 1868, 12.28 bushels in 1871 and then, after a series of better yields, to 9.61 bushels in 1876, closing the period with an average yield of 11.3 bushels in 1879.[37] Granting all that was claimed at the time regarding the effect of unseasonable weather and insect attacks, the fact remains that the climate had not materially changed and that methods of cultivation have much to do with the ability of crops to withstand both unfavorable weather and insect attacks. It is therefore impossible, especially in view of the fact that the wheat "blight" of 1868 affected chiefly the older counties,[38] to escape the conclusion that the one-crop system had already begun to exhaust the soil, wherever it had been followed for twenty years or more.

Causes tending to increased specialization in wheat

Indications were consequently not lacking, early in the seventies (Figs. 68, 74), that the craze for wheat had almost run its course, and that conditions were ripe for a return to mixed farming. That this change did not occur at that time, rather than twenty or thirty years later, was due chiefly to three causes.

In the first place, railroads were rapidly bringing fresh lands within reach of the market, and also connecting Minnesota more effectively with the East. It will be recalled (page 38) that in September, 1870, St. Paul secured railroad connection with Duluth, thus opening the Lake Superior route to the East; that in October, 1871, the St. Paul and Pacific reached Breckenridge, in the upper Red River Valley; while the Northern Pacific the same year connected Moorhead at the usual head of navigation on the Red River with Duluth; and that in September, 1872, a new route to Chicago was opened by way of La Crescent and La Crosse. In 1872 also the Minnesota Valley Railroad from St. Paul was extended to Sioux City. The second cause tending to wheat farming was the fact that, owing to lack of capital, most of the farmers even in the older counties were compelled to concentrate their efforts on that crop which promised cash returns in the shortest possible time. These causes were reinforced through the introduction of new and revolutionary methods in flour milling, of which more will be said later.

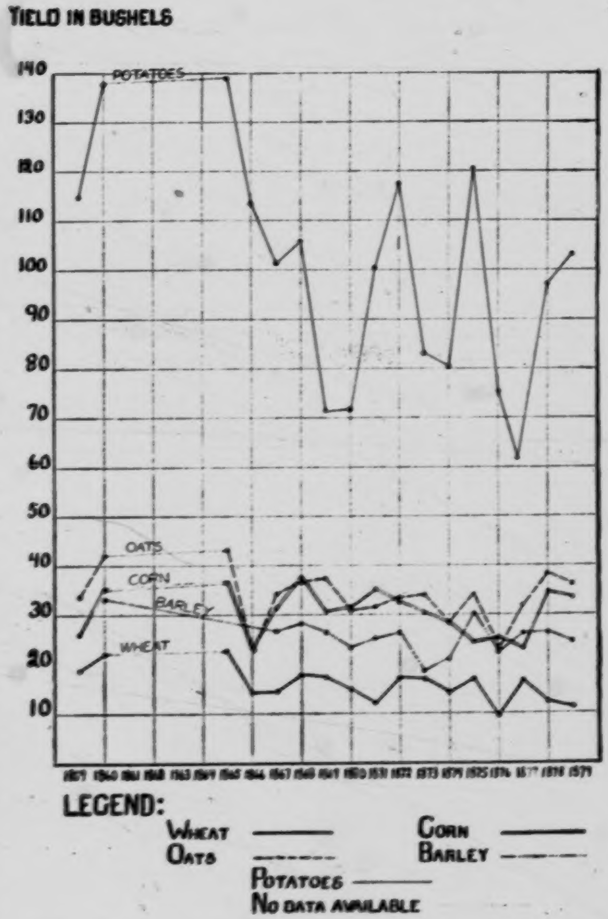

Figure 71. Average acre yields of principal crops, 1859-1879.[37]

To these major causes were added several others of a temporary or incidental character. Thus, it was discovered that cheap prairie land plus automatic agricultural machinery rendered large-scale wheat farming both possible and profitable; and the huge railway grants afforded every facility for assembling great landed estates. As a result, there began as early as 1870[39] the development of that type of bonanza wheat farming which was later to play such a conspicuous part in the Red River Valley. Again, the season of 1872 proved more favorable to wheat in spite of the plague of grasshoppers in the western prairie counties, the average yield being 17.4 bushels per acre against 12.28 bushels in 1871.[40] Further, the destructive epizootic or horse influenza reached the State in December, 1872, and together with the very severe weather during that winter caused severe losses among live stock. The same winter destroyed a large part of the fruit trees which had recently come into bearing,[41] and many more were damaged during the winter of 1874-75. These losses tended to discourage diversified farming.

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[34] *Statistics of Minnesota*, 1874, 21-22; 1876, 17.
[35] *Ibid.*, 1873, 192; 1874, 7-9; 1875, 19-22; 1876, 49, 80, 88; 1877, 17, 19; 1878, 9. *Fifth Report Agricultural Experiment Station*, 96-99.
[36] *Statistics of Minnesota*, 1877, 18, 94; 1880, 22-24, 72-74.
[37] *Ibid.*, 1869, 17; 1880, 21. This average for 1879 is substantially confirmed by the census of 1880, which shows 11.36 bushels of wheat per acre.
[38] *Ibid.*, 1879, 21.
[39] McClung, J. W., *Minnesota As It Is in 1870*, 106-109.

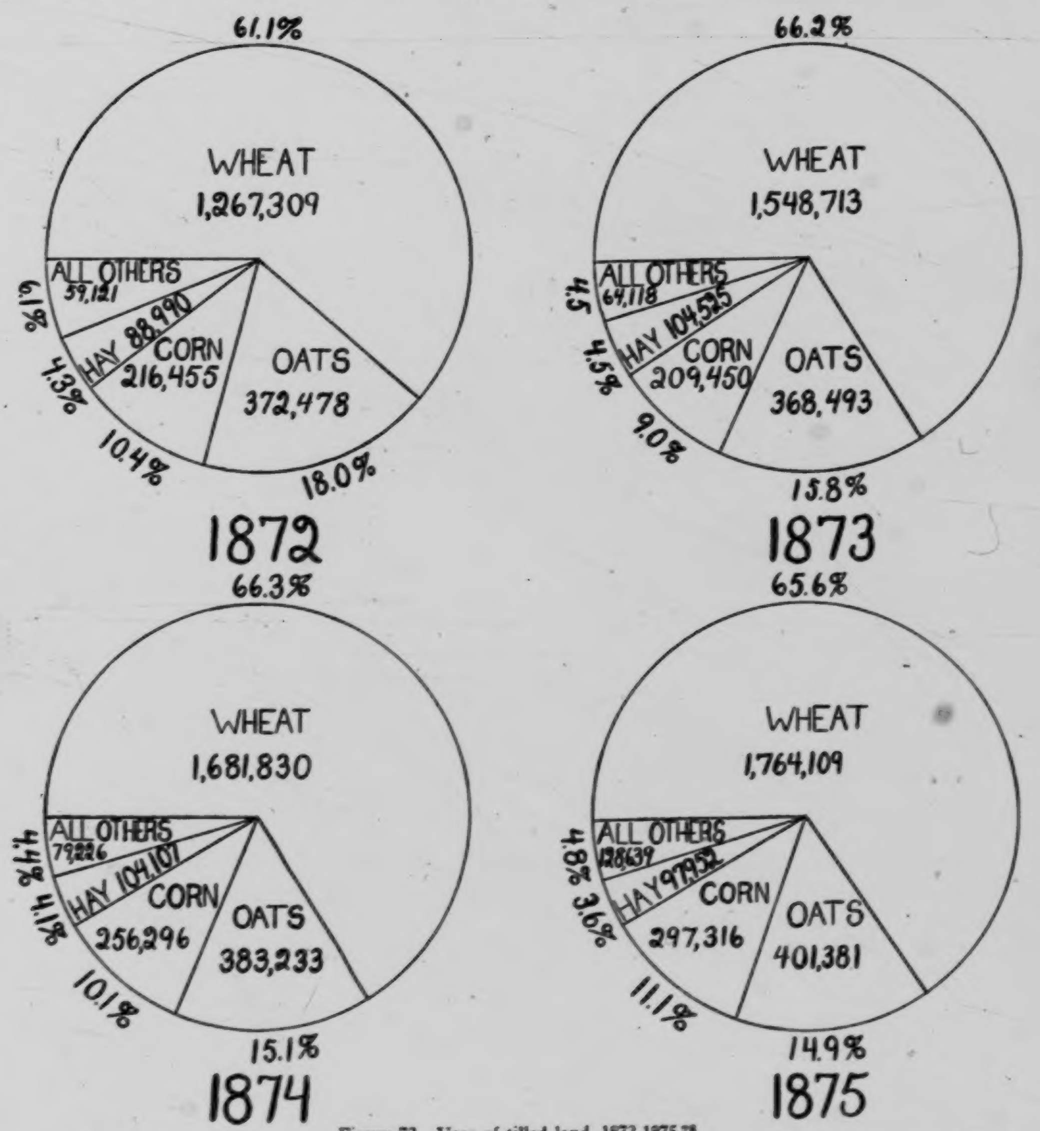

Figure 72. Uses of tilled land, 1872-1875.[28]

Effect of new milling processes

The ancient method of extracting flour from wheat by a single grinding had long been superseded in merchant mills by a process of "high-grinding," which yielded extra flour, bran and an intermediate product called middlings. The middlings when reground yielded an additional amount of flour, but of inferior appearance. It became well-known that the middlings, especially those of spring wheat, contained more nutriment than extra flour of the same weight, and it was a problem among millers how to eliminate the impurities which darken the flour. In 1870, Edmund N. La Croix, a graduate of the École des Arts et Métiers of France, came to Minneapolis and introduced the "middlings-purifier," a combined sifting and suction apparatus, based on a French invention, into the "Washburn B" mill, then operated by George H. Christian. By 1876 this invention was in general use. Meantime, in 1874[42] the plan of using iron or porcelain rollers in place of mill stones, was introduced in the "Washburn A" mill. This plan, originally a Hungarian invention, had been developed and perfected under the direction of Minneapolis millers, and also of John Stevens, of Neenah, Wisconsin, who eventually secured the patents. By 1880 this roller process was also in general use.[43] The essential principle of the new plan was multiple grinding with reduced speed and pressure, the wheat berry being at first merely cracked and the bran removed, and then reduced to flour by successive millings.

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[40] *Statistics of* [illegible]*esota*, 1873, 192.

[41] *Ibid.*, 243-[illegible]; 1875, 21-23.

[42] *Minn. His*[illegible]*oc. Coll.* X, Pt. 1, 45-49; *Statistics of Minnesota*, 1876, 204; Pillsbury, C. A., *American Flour* (Depew, *One Hundred Years of American Commerce*, I, 260).

The effect was immediate and striking. The middlings purifier alone advanced the price of spring-wheat flour as much as from $1 to $3 a barrel.[42] In place of selling at a discount, it now commanded a premium of at least $1 a barrel over flour made from winter wheat. As a result, spring wheat, owing to its large content of gluten, also rose from 10 to 40 cents a bushel, depending on the grade.[44] This rise in wheat was, however, delayed until competition between the millers forced them to pass on part of the extra profit to the farmers, the final advance averaging perhaps 20 per cent of the previous selling price. Such an advance in price rendered wheat farming a much more profitable business and for the first time established on a solid basis the commercial prosperity of the spring-wheat district of the Northwest.

Second culmination of wheat growing

In view of these favoring conditions wheat growing spread so rapidly after 1871, chiefly in the new counties, as to carry the percentage of tilled land in wheat up to new high levels. The culminating point of this second period was reached in 1874, when wheat occupied 66.3 per cent of all tilled land (Fig. 72).

After 1874 a second reaction set in for several years. The panic of 1873 was far less severe in Minnesota than the one of 1857, yet it brought railroad building practically to a dead stop (Fig. 33), and reacted unfavorably on the market for farm products. As a result, wheat prices again declined, as previously noted, and agricultural discontent became widespread, the immediate ground of complaint being high railroad rates. Already in 1873 it was declared that "wheat is becoming king, and through its alliance with high transportation a tyrant."[45] There was also discouragement due to low yields. After the disastrous crop failure of 1876, for the first time since Minnesota became a State, there was an actual decline in the acreage sown to wheat, chiefly in the south central counties.[46]

The year 1877 thus marked the lowest point of the second decline in wheat growing, but even this low point represented a larger percentage of land in wheat than the first culminating point in 1867 (Fig. 74).

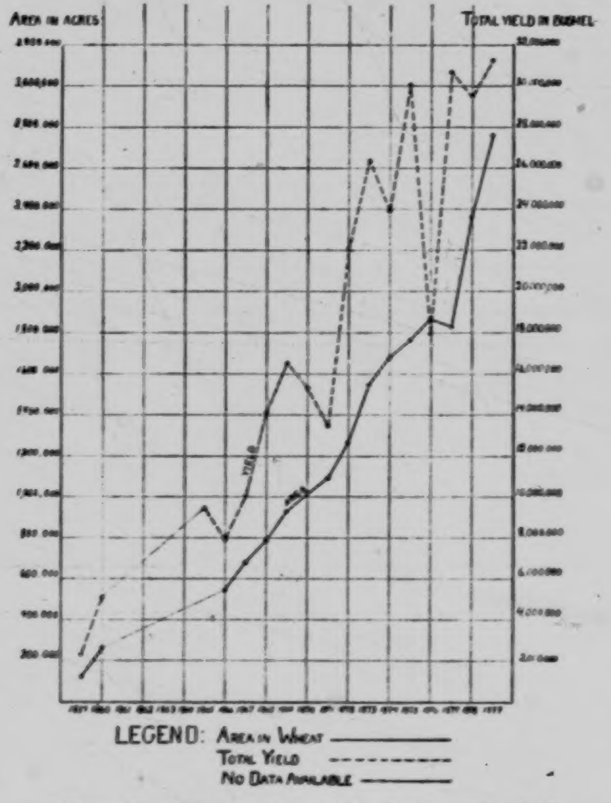

Figure 73. Acreage and total yield of wheat, 1859-1879.[47]

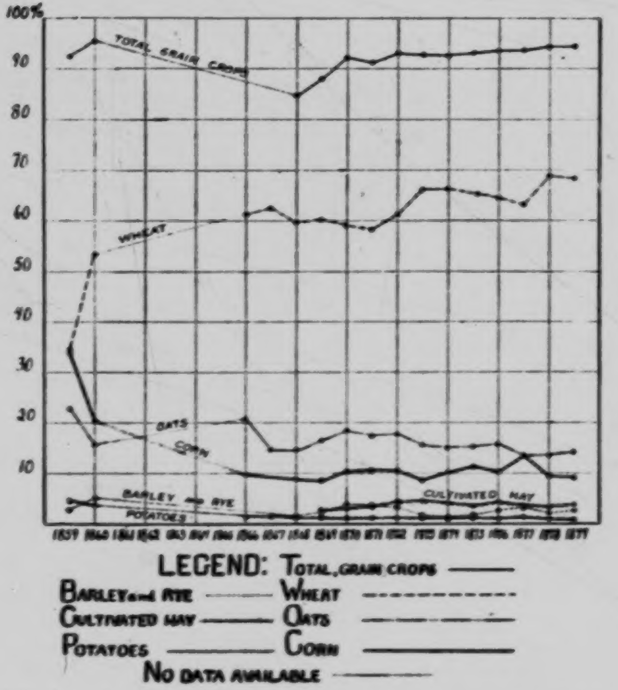

Figure 74. Percentage of tilled land in principal crops in Minnesota, 1859-1879.[46]

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[43] *Wis. Hist. Coll.*, 1907, 246 ff.
[44] *Statistics of Minnesota*, 1877, 27.
[45] *Ibid.*, 1873, 188.
[46] *Ibid.*, 1878, 14.
[47] *Ibid.*, 1861, 56; 1878, 15; 1880, 23. Figures for 1868 and 1860 corrected by elimination of arbitrary addition. (See 1871, 6 ff.)

In spite of the check to railroad building after 1873, the population of the State rose from 439,706 at the federal census of 1870 to 597,279 according to the state census of 1875, the increase being 157,573 or at the rate of 36 per cent for the five years. A considerable part of this increase was in the southwestern counties, below the Minnesota River, adjacent to the line of the Minnesota Valley Railroad. During the same period tilled land increased 74 per cent and the yield of wheat 78 per cent.[49]

First indications of diversified agriculture

While wheat farming was thus rapidly spreading, especially toward the west and northwest, there were evidences in the older section of a beginning of diversification. For example, the statistics collected by the State Grange for 1873, covering mostly well-established farms in the older counties, showed a materially lower percentage of land in wheat and grain crops generally than obtained in the State at large. On the other hand, flax was well represented, especially in Blue Earth County, adjacent to the linseed oil mill at Mankato; cultivated hay occupied 8.57 per cent of tilled land on the grange farms, against 4.39 per cent in the State as a whole; while minor crops held 2.38 per cent, against 0.76 per cent shown by the state statistics.[50] Included under minor crops were sorghum, hops, tobacco, peas and beans (in which a colony of English settlers in Martin County was specializing),[51] clover and grass seed, broom corn, and small fruits, especially raspberries, currants, and strawberries. Orchard fruits, however, including chiefly apples, suffered greatly from the severe winter of 1872-73 and again from the winter of 1874-75,[52] which made it clear that Minnesota was not likely soon to rival Michigan or Ohio as a fruit-growing state.

Another evidence of increasing diversification is the fact that in 1874 ten of the older counties (Dakota, Fillmore, Goodhue, Hennepin, Houston, Olmsted, Rice, Wabasha, Washington, and Winona), each containing 5,000 or more acres of cultivated hay, together comprised nearly 80 per cent of the cultivated hay in the State, while four of them (Fillmore, Olmsted, Winona, and Goodhue) alone had 32.82 per cent of the entire crop.[53] The same ten counties in 1874 had 35 per cent of the milch cows, producing 37 per cent of the butter, and sheared 34 per cent of the sheep in the State. In brief, as early as 1873, different types of agriculture began to prevail in the older and the newer parts of the State. This difference, which still continues, in a measure prevents state averages from being truly representative of any large section of Minnesota.

Third and final culmination of wheat growing

The crop failure of 1876 caused high prices for wheat in 1877 (Fig. 75). As a result so much land was planted to wheat the next spring as to make 1878 the third and final culminating point of wheat culture in Minnesota, this one crop then occupying 68.98 per cent of all tilled land. No other year has equaled that record. There was a poor crop in 1878, and the yield per acre was still lower in 1879, exceeding but little the aggregate crop of 1878 or even 1875, in spite of the larger acreage (Fig. 73). Prices also failed to maintain the level of 1877.[54] The percentage of land in wheat consequently fell off slightly in 1879, due to an actual loss of acreage in the south which partially offset the gain in the north and west.[55]

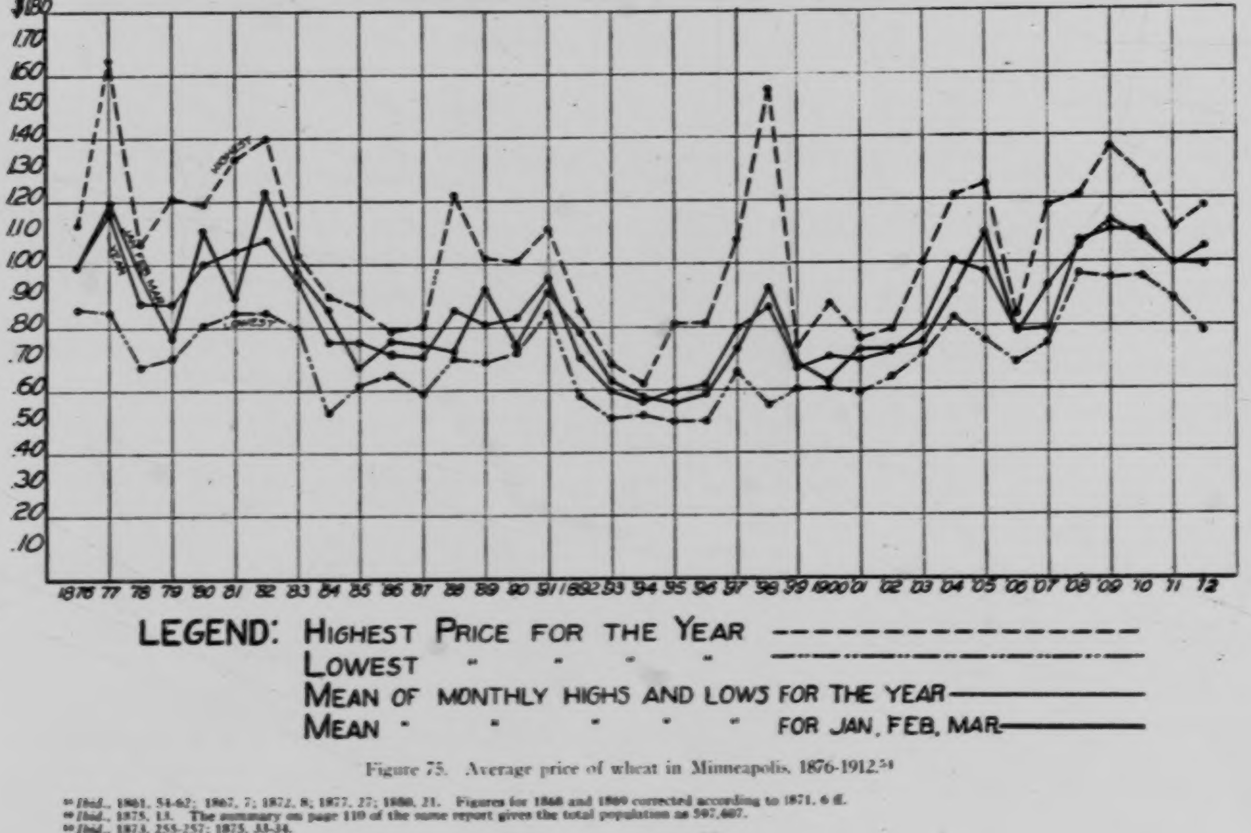

Figure 75. Average price of wheat in Minneapolis, 1876-1912.[54]

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[48] *Ibid.*, 1861, 54-62; 1867, 7; 1872, 8; 1877, 27; 1880, 21. Figures for 1868 and 1869 corrected according to 1871, 6 ff.
[49] *Ibid.*, 1875, 13. The summary on page 110 of the same report gives the total population as 597,407.
[50] *Ibid.*, 1873, 255-257; 1875, 33-34.
[51] *Ibid.*, 1874, 17.
[52] *Ibid.*, 21-22.
[53] *Ibid.*, 1875, 33-34, 49.
[54] *Thirteenth Report of Minneapolis Chamber of Commerce*, 82-88, using highest and lowest closing prices.
[55] *Statistics of Minnesota*, 1880, 22.

Diversification in the later seventies

Among the minor crops flaxseed made a great gain in 1879, occupying about six times as much land as previously.[56] This increase was largely in the southwest, where flax was used as a sod crop in lieu of beans, which had previously been so employed.

After the great blizzard of January, 1873, which caused much damage and suffering in all the prairie states, Congress passed the Timber Culture Act, designed to encourage the planting of windbreaks. In 1876 this was followed, in Minnesota, by the organization of the Minnesota State Forestry Association and by the grant of state money for the encouragement of tree planting.[57] These tree bounties, which were largely increased a dozen years later, have cost the State to date more than $600,000, and it may be doubted whether they have accomplished anything which would not have come to pass sooner or later without them.[58] Nevertheless, the association and the bounties did turn public attention to the desirability of tree planting, and within a few years the open prairies were dotted with small groves. This increase of shelter was one of several circumstances favorable to the development of animal industries.

For some years prior to 1876 there had been a number of farms in the State devoted to raising blooded stock for breeding purposes. All kinds of live stock as well as poultry were represented on these farms, though it was claimed by some that the common cattle throughout the State were of low grade and still deteriorating.[59]

The decline of sheep farming, which had been in progress from 1866 on, was checked after 1871.[60] After that date the number of sheep again increased, especially in the Coteau des Prairies region of the southwest, and by 1879 was greater than in 1866; though of course sheep were relatively less important at the later date because of the great increase of country population.

More significant than increase of number was the increase of wool (Fig. 76). In 1868 the clip averaged less than 3 pounds per head; by 1872 it had reached 4 pounds; and in 1879, it exceeded 4.5 pounds per head. This change evidently signified the introduction of better stock. One cause promoting sheep farming was the existence of a woolen mill at Minneapolis, which furnished a market for practically all the local wool and even a considerable amount from Colorado.[61] On the other hand, the principal factor limiting the industry was the loss caused by dogs and wolves.[62] In Minnesota, as in most of the states east of the Mississippi where farms are relatively small, sheep are not kept in sufficient numbers to warrant the regular employment of guards as in the Rocky Mountain region.

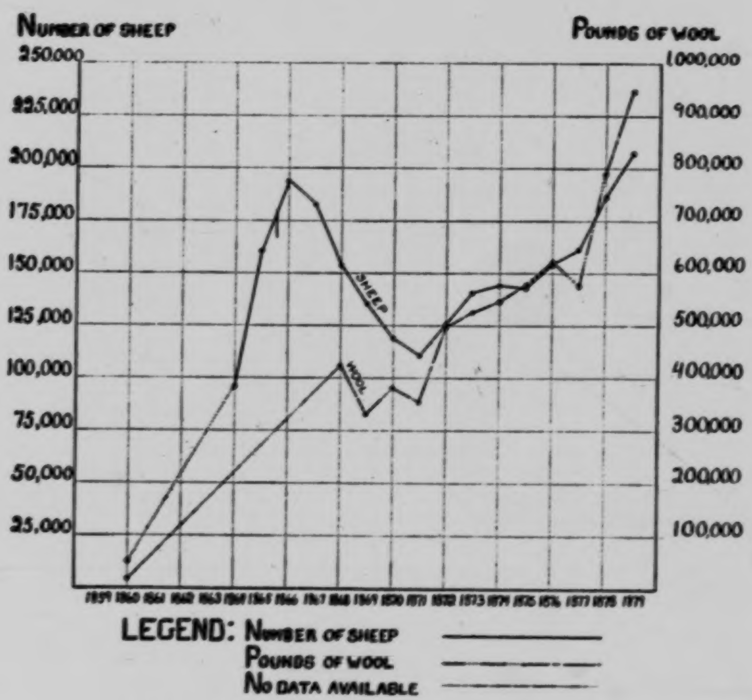

Figure 76. Increase of sheep and wool, 1859-1879.[60]

Development of dairying

The dairy industry, being less speculative than sheep farming, showed both a steadier, and in the long run a more rapid, development, as will appear from Fig. 77. In this diagram the barbed curves represent federal statistics, while the others are based on the annual state returns. These state returns run materially lower than the federal because they were collected by the assessors, which furnished a motive for understatement in the case of live stock subject to taxation. Both sets of curves show an increased rate of growth in the dairy industry about 1868 or 1869, when the first serious reaction set in against specialized wheat growing.

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[56] *Ibid.*, 1880, 32.
[57] *Ibid.*, 1876, 157-158; Laws of 1876, chap. cx.
[58] *Report of State Forester*, 1911, 107.
[59] *Statistics of Minnesota*, 1876, 116-151.
[60] *Ibid.*, 1860, 100; 1861, 74-75; 1869, 44; 1870, 31; 1872, 26; 1880, 39.
[61] *Ibid.*, 1878, 224.
[62] *Ibid.*, 1876, 137-142.

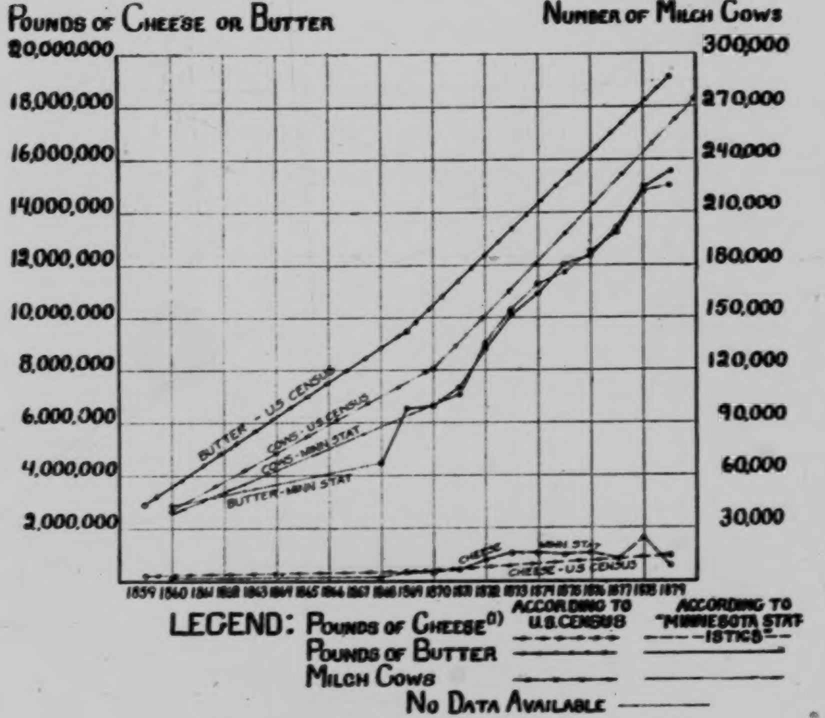


Figure 77. The dairy industry, 1859-1879.[63]
(See Tables XXIV and XXXII)

Butter and cheese as farm products date from the beginning of agriculture in Minnesota, though the first record of cheese marketed in St. Paul is for the year 1852.[64] Both butter- and cheese-making in the United States were then entering the transition from farm to factory industries. New York State took the lead in this change, the first cheese factory there dating from 1851, and the first butter factory from 1861.[65] In Minnesota, as already noted (p. 73), the first cheese factory had been established about 1868 or 1869, the census of 1870 reporting two such factories.

They multiplied rapidly thereafter, the Minnesota statistics for 1876 showing 49 cheese factories in the State.[66] At that time it was declared that, while Minnesota butter had no particular reputation, Minnesota cheese, already in large part a factory product, ranked with the best.[67]

Butter factories were established later and less rapidly. In January, 1876, the Langdon Butter and Cheese Factory Company was orgnaized in the Cottage Grove district as a joint stock company, producing during the first season 52,000 pounds of cheese and 300 pounds of butter.[68] It was then calculated that it took 9½ pounds of milk to make a pound of cheese, but 22¼ to make a pound of butter (a ratio of 1 to 2.34);[69] hence it would not pay to produce cheese, supposing other expenses to be equal, unless cheese sold for at least 42.7 per cent as much per pound as butter. At the State Fair in October, 1876, it is recorded that "the display of butter and cheese was very fine, a number of factories having samples that would convince the butter- and cheese-makers of Ohio and New York that it is time for them to look to their laurels."[70] It seems, however, that butter factories were relatively few, since the next year (1877) we find the *Pioneer Press* publishing an article on butter factories as a new institution which readers were invited carefully to consider.[71] In February, 1878, the State Dairymen's Association was organized and dairying was advocated as "more certainly remunerative than wheat growing because it is not so liable to injury by grasshopper depredations, unpropitious seasons, hail storms, etc., nor does it occasion depletion of the productive elements of the soil."[72] In

[63] Data from U. S. Census, and *Statistics of Minnesota*, 1861, 68-69; 1870, 16; 1871, 23; 1872, 27; 1880, 38. "Cheese" includes both farm and factory product.
[64] *Minnesota Pioneer*, July 29, 1852.
[65] *Year Book*, U. S. Dept. of Agriculture, 1899, 385-386.
[66] *Ibid.*, 1876, 85. The industry was, however, still unstable, as the next year only 46 factories were reported and a number of these were in other counties (*Ibid.*, 1877, 100).
[67] *Ibid.*, 1877, 55; also Table 10, items 63, 64.
[68] *Ibid.*, 1876, 151.
[69] *Ibid.*, 117.
[70] *Ibid.*, 1877, 55-56.
[71] *Report of State Agricultural Society* 1906, 57.
[72] *Statistics of Minnesota*, 1878, 39

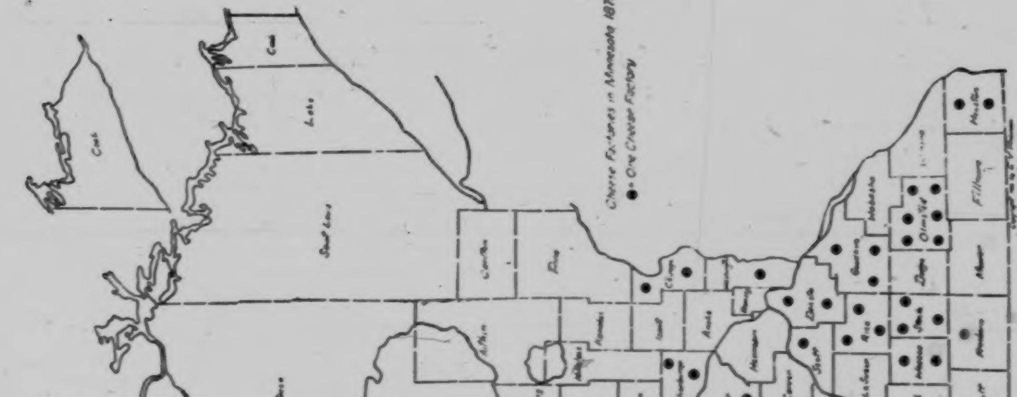

Cheese Factories in Minnesota 1876.
● = One Cheese Factory

Figure 78. Distribution of cheese factories by counties in 1876.[72]

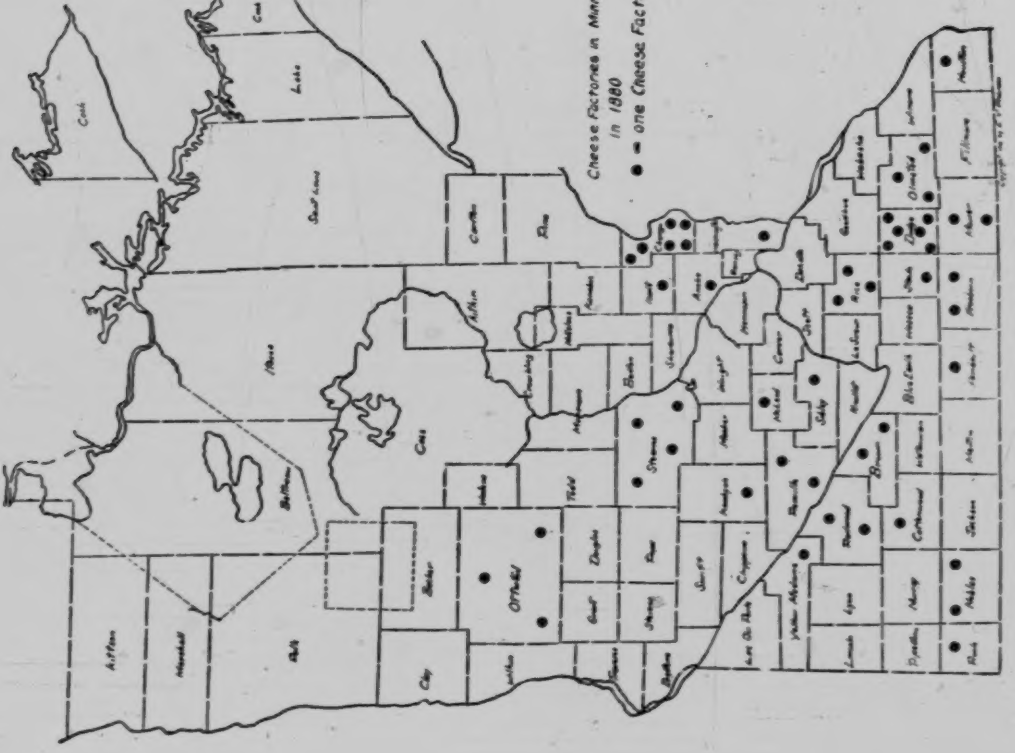

Cheese Factories in Minnesota in 1880
● = one Cheese Factory

Figure 79. Distribution of cheese factories by counties in 1880.[73]

[73] *Ibid.*, 1880, 62.

1879 at least one large establishment was converted from a cheese to a butter factory, owing to the better prices obtained for butter;[74] and it is possible that this happened in other cases. For 1880 an irreconcilable conflict exists between the state statistics, which show by counties 49 cheese factories,[75] and the census of that year, which reports only 27 cheese and butter factories combined. By reason of the greater definiteness of the state statistics, the inference is that the census report is incomplete; especially in view of the fact that the state statistics, being collected by the assessors, tended always to be too low rather than too high. It is, however, possible that the high price of butter had temporarily caused some of the cheese factories to close down. This hypothesis would also explain the sharp drop in the output of cheese in 1879 (Fig. 77). The distribution of cheese factories in 1880 according to the state statistics is shown in Fig. 78.

It should be noted that this map, like the one for 1876, gives the location by counties, but not by smaller civil units. A glance suffices to show that 28 of the 49 cheese factories reported for 1880 were located in two well-marked groups. One group was found in Dodge, Olmsted, and adjacent counties, in the heart of the original wheat belt, where mixed farming was becoming imperative; another in the district east of the Mississippi, where wheat farming never had been a success; while the remainder were scattered through the western counties toward the agricultural frontier. It is noticeable that few factories were found near the cities or, indeed, adjacent to the principal waterways. In such locations it was apparently more profitable to market milk or butter. On the other hand, cheese, being less perishable, could be produced to greater advantage in districts more remote from centers of population.

Distribution of population in in 1880

By 1880 settlement had extended west and northwest to the boundaries of the State. The northern half of the Red River Valley, however, was still very sparsely peopled, having but recently (1878) secured railroad connection with Duluth and Minneapolis[76] (Fig. 80). The population reported by the census was 780,773, an increase of 341,067 or 77.6 per cent over 1870, and 183,494 or 41.7 per cent (measured by 1870) over 1875. The increase was thus the more rapid during the latter half of the decade, in spite of the disastrous crop failure of 1876. This fact seems to indicate the cumulative effect of the new milling processes. So large a part of the newcomers had gone to increase the density of settlement in the older section that the bulk of the population was still found east and south of Stearns County, especially as 13 out of the 14 municipalities having 2,500 or more inhabitants were situated in the relatively small district between Winona, Mankato, Anoka, and Stillwater (Fig. 80).

The distribution is not materially altered by the elimination of all incorporated places (Fig. 81). Settlement was still, as in 1870, denser along the edge of the hardwood belt running northwest through Stearns, Douglas, and Otter Tail counties than in the purely prairie counties. On the other hand, it is evident that in 1880, thanks chiefly to the rapid extension of railroads, the settlement of the prairies was well under way.

Distribution of improved land in 1880

Computing the ratio of improved land at the census of 1880 to the area of the several counties, it appears that nine counties in the southeastern section, besides one (Nicollet) in the bend of the Minnesota, had between 60 and 80 per cent of their total land area under tillage or otherwise improved for farming. These counties from Mower and Fillmore to Dakota occupied the flat divide between the lower Minnesota and the Mississippi, extending also at places to both rivers. It will be noted that the driftless district in the southeast corner of the State, being more broken as to surface, showed a smaller percentage of improved land. On the west and northwest the percentage of such land also diminished toward the agricultural frontier, which began beyond Brown and Stearns counties. East of the Mississippi only Washington and Ramsey counties had as much as 20 per cent improved. In the extreme southwest, Rock County, which had been settled largely by way of the Missouri River and Iowa, had a materially larger percentage of land improved than the counties to the northeast on the Coteau des Prairies.

Distribution of agriculture according to the census of 1880

The acreage of wheat, first reported by the census in 1880, brings out perhaps more clearly than the production the westward spread of wheat growing (Fig. 83). It is interesting to note that the Coteau des Prairies across the southwestern corner of the State is clearly shown by the lesser acreage in wheat.

The average yield of wheat being approximately six bushels less per acre in 1879 than in 1869 (Fig. 71), the production of wheat in these two years does not tell the full story of the development during the decade (Figs. 59, 84). The bulk of the crop was still grown in the section south of the Minnesota River and east of Blue Earth County, though a notable westward extension of wheat growing was evident, especially north of the Minnesota River.

The acreage of oats showed about the same range as that of wheat, with distinctly less concentration in the southeastern section (Fig. 85). The yield of oats in 1879 was fairly comparable with that of 1869, being only about a bushel less per acre (Fig. 71). Comparing the total yield for the two years (Figs. 60, 86), it appears that oats had advanced westward about as fast as population and had also gained in most of the southeastern and south central counties, largely by reason of the increase in farming population (Table 10).

Barley in 1869 was almost entirely confined to the southeast (Fig. 61). By 1879 it had spread somewhat toward the west and northwest, as shown by the acreage (Fig. 87). From the production map, however, it is evident that some five or six southeastern counties, in the original wheat belt, had begun to make barley a leading crop (Fig. 88). This was undoubtedly a step away from the one-crop system, since barley, like wheat, is distinctly a market crop. The total yield of barley had more than doubled in the decade (Table 10), although the yield per acre was substantially the same (Fig. 71), indicating a corresponding increase of acreage.

Rye was grown in many counties (Table XVII), but in most of them on too small a scale to appear on the maps of acreage or production (Figs. 89, 90). While still a minor crop, it about tripled during the ten years, gaining especially on light soils, in

[74] *Ibid.*, 1880, 38. See also footnote 41.
[75] *Ibid.*, 62.
[76] *Ibid.*, 1878, 193, 208.

districts formerly wooded. For such localities it has the advantage, being usually planted in the autumn, of getting a good growth before the season of hot and dry weather.

The acreage of corn was mostly in the southern fourth of the State, south of Hennepin County (Fig. 91). From the maps of production, however, it appears that corn had advanced during the decade not only toward the west, but also toward the northwest, being of some importance as far north as Otter Tail County (Figs. 63, 92). The total yield had more than tripled, implying a large increase of acreage, though not a proportionate increase, because the yield per acre was some four bushels larger than in 1869 (Fig. 71). The greatest density of corn growing was in the counties containing parts of the lower Mississippi and Minnesota bottom lands, and in the belt of lowland running south from the elbow of the Minnesota River.

The cultivation of potatoes had advanced west and northwest with the population (Figs. 64, 93). The total yield was more than double that of 1869 (Table 10); but this increase was due in part to a larger yield per acre. In 1869 potato bugs had destroyed much of the crop, but by 1879 means had been found of keeping them in check (Fig. 71). It will be noted that there was already a zone of somewhat greater density of potato growing about the cities. Among the other crops, flaxseed for the first time approached 100,000 bushels, having increased more than fivefold since 1870 (Table 10). All the counties producing as much as 10,000 bushels (Fig. 94) were in the prairie district of the southwest (page 10). The acreage and production of hay, as reported by the census, include both wild and tame varieties. Since hay was then cut chiefly for local use, the hay harvest was widely distributed (Figs. 95, 96).

The distribution of dairy cattle on farms also corresponded so closely to that of country population as to indicate that dairy products were as yet chiefly by-products of farming; that is to say, handled almost exclusively, except for the cheese factories, by the women and children.

On the basis of total value of farm products in 1870, the river counties with Olmsted and Fillmore, which for several years had enjoyed railroad connection with the river ports, were far in the lead; whereas by 1880, the interior counties of the southeast had risen to substantial equality with the previous leaders. There was also in evidence a notable westward extension of the value of farm products. On the whole, however, the bulk of the values as of the population was still found south and east of Stearns County.

Relation of population and farm products, 1870-1880

By way of summary of the agricultural development of the decade 1870-1880, a comparative table is presented at the end of this chapter giving for each product the amount, the percentage of increase or decrease during the decade, and its relation to the country population.

In Table 10 the most striking fact revealed is the beginning of the rush to the city, country population increasing only 65.8 per cent against 112.1 per cent for all incorporated places (Items 1, 2). Nevertheless, it was still true that the absolute increase of country population was 215,495 against 125,572 for town population. The first report on tenure made at this census showed 90.85 per cent of the farms operated by their owners.

Improved land increased over three times as fast as country population, gaining more rapidly than waste land and woodland, and resulting in nearly double as many acres of improved land per capita as in 1870. Since the best land, all things considered, was presumably used first, it would seem that the extensive margin of cultivation was descending; that is, some lands not absolutely first class were coming under the plow (Items 4, 7, 8, 12). The number of farms also outran the country population, though it failed to keep pace with the increase of total land in farms. As a consequence, the average size of farms rose from 139.4 to 145.1 acres. This change was presumably based on the increasing use of agricultural machinery, especially for planting and harvesting small grains (Items 9, 10, 11).

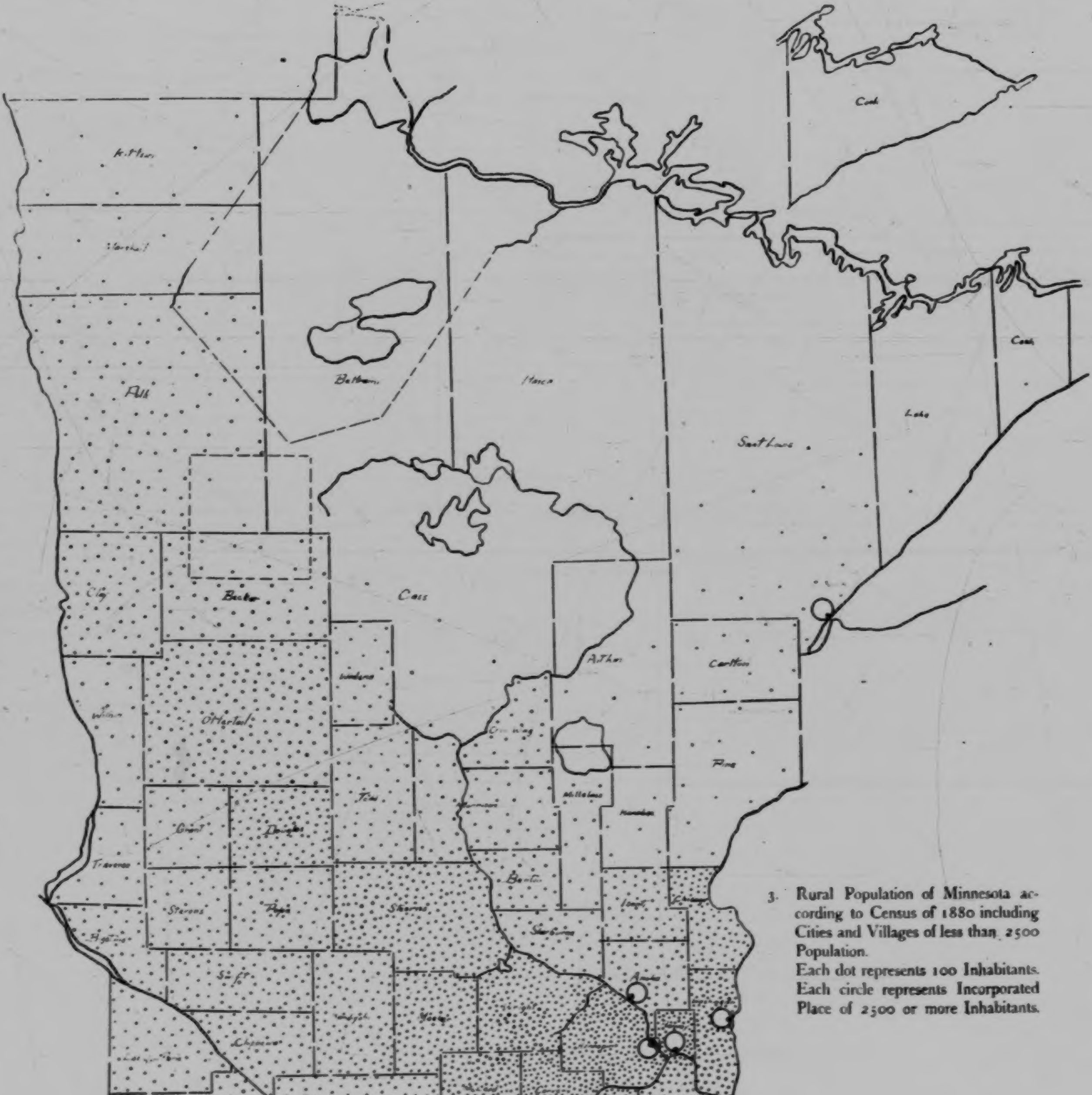
The greater efficiency of farming, due to machinery, is strikingly apparent in the crop returns, notwithstanding the element of uncertainty due to variation in seasons (Fig. 101) and possible variation in the proportion of country population engaged in occupations other than agriculture. Thus, the percentage of increase in the crop was greater than the increase in country population, not only for wheat and barley, but also for oats, rye, corn, potatoes, and flaxseed, besides various minor crops. Only buckwheat, beans, hops, flax fiber, market-garden products, sweet potatoes, and maple sugar failed to increase as rapidly as country population (Items 13-50 inclusive). All of these were crops of small importance; and in the case of garden produce the decrease shown by the census was probably unreal, being due to a difference of classification.

The rate of increase was especially striking in the case of several minor products, notably clover, grass seed, and fruit, which have subsequently gained more ground; also tobacco and sorghum, which began to be widely planted during the Civil War for home use. Tobacco never progressed beyond this stage; but about 1869 a new sorghum hybrid called "Minnesota Early Amber" was introduced and for some years men had visions of Minnesota competing with Louisiana in sugar.[77] A syrup factory was built at Morristown and a sugar factory at Dundas, in Rice County. It even became the fashion to suppress the word "sorghum" and refer to the new variety as "sugar cane." As a result of this development the output of sorghum syrup rose from 38,735 gallons in 1870 to 543,369 gallons in 1880. Climate is, however, a stubborn fact, and it became clear after a time that Minnesota is, on the average, neither warm nor dry enough for sorghum, which finds its best habitat in southern Kansas.[78]

The various classes of live stock also increased from two to three or even four times as fast as country population, except working oxen, which were then giving way to horses. Oxen, being less excitable than horses, were useful so long as roots, stumps, or stones were likely to be encountered; but when agriculture entered the prairies, and especially when expensive farm machinery began to be employed, it became profitable to use more rapid means of traction (Items 51-58).

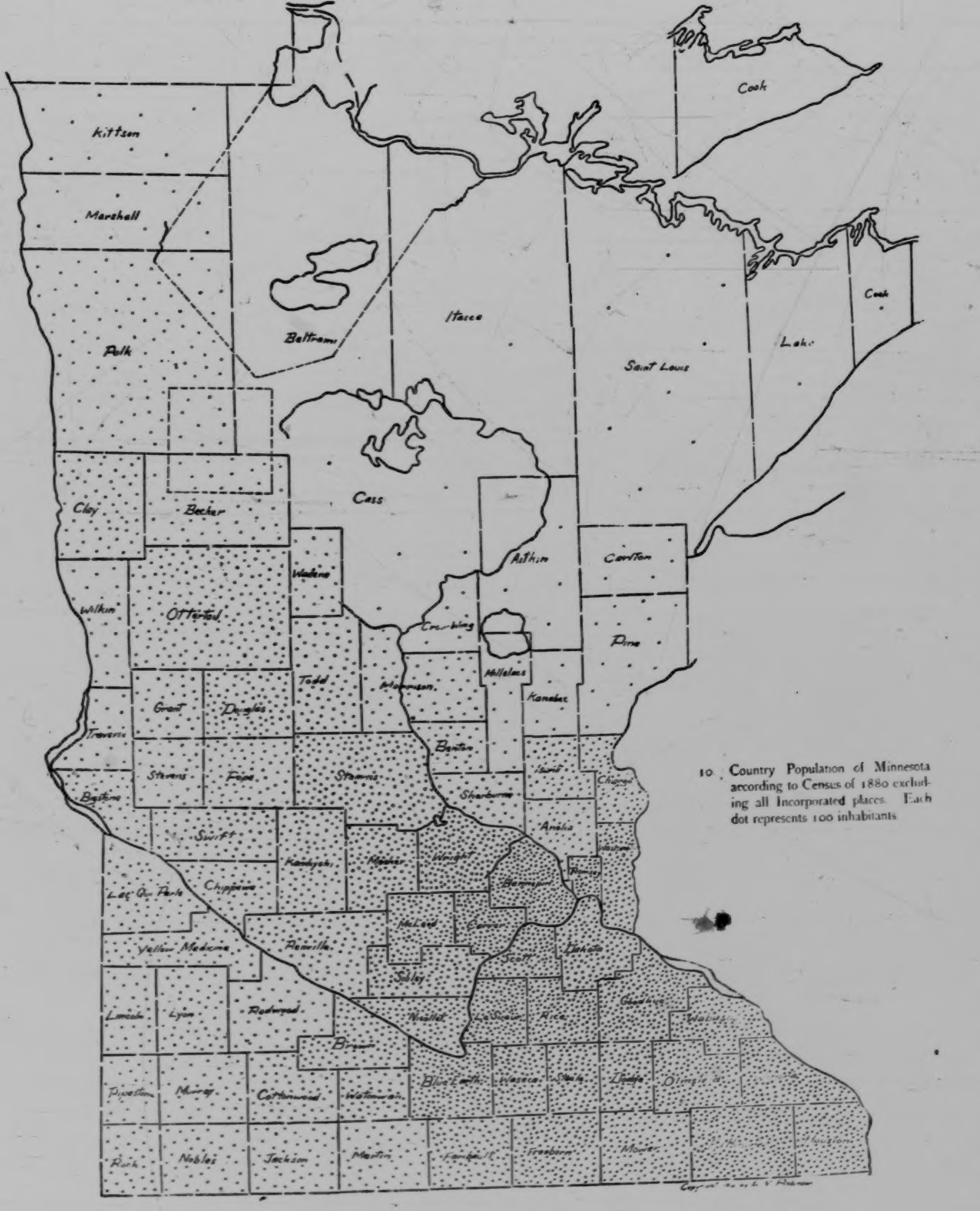
Animal products, like live stock, increased more rapidly than country population. The increase of wool, however, was

[77] *Ibid.*, 1877, 38, 47; 1878, 28-36; 1879, 24-25; 1880, 74-77.
[78] Abbe, C., *Climate and Crops*, 337. (Bul. 36, U. S. Weather Bureau).


Kittson
Marshall
Polk
Beltrami
Itasca
Saint Louis
Lake
Cook
Cook
Cass
Clay
Becker
Wadena
Otter Tail
Wilkin
Aitkin
Carlton
Pine
Crow Wing
Todd
Grant
Douglas
Traverse
Stevens
Pope
Stearns
Benton
Big Stone
Swift
Chippewa
Lac qui Parle
Yellow Medicine
Lincoln
Lyon
Redwood
Brown
Pipestone
Murray
Cottonwood
Rock
Nobles
Jackson
Martin
Steele
Copyright

3. Rural Population of Minnesota according to Census of 1880 including Cities and Villages of less than 2500 Population.
Each dot represents 100 Inhabitants.
Each circle represents Incorporated Place of 2500 or more Inhabitants.

Figure 80. Population in 1880. (Based on Table XI)



10. Country Population of Minnesota according to Census of 1880 excluding all Incorporated places. Each dot represents 100 inhabitants

Kittson
Marshall
Polk
Beltrami
Itasca
Saint Louis
Lake
Cook
Cook
Cass
Clay
Becker
Wadena
Carlton
Aitkin
Pine
Wilkin
Ottertail
Crow Wing
Todd
Morrison
Mille Lacs
Kanabec
Grant
Douglas
Traverse
Benton
Stevens
Pope
Stearns
Sherburne
Isanti
Chisago
Big Stone
Swift
Anoka
Kandiyohi
Meeker
Wright
Washington
Hennepin
Ramsey
Lac Qui Parle
Chippewa
McLeod
Carver
Yellow Medicine
Renville
Scott
Dakota
Sibley
Lincoln
Lyon
Redwood
Nicollet
Le Sueur
Rice
Goodhue
Wabasha
Brown
Pipestone
Murray
Cottonwood
Watonwan
Blue Earth
Waseca
Steele
Dodge
Olmsted
Rock
Nobles
Jackson
Martin
Faribault
Freeborn
Mower
Houston

Figure 81. Population outside of incorporated places in 1880. (Based on Table XI)

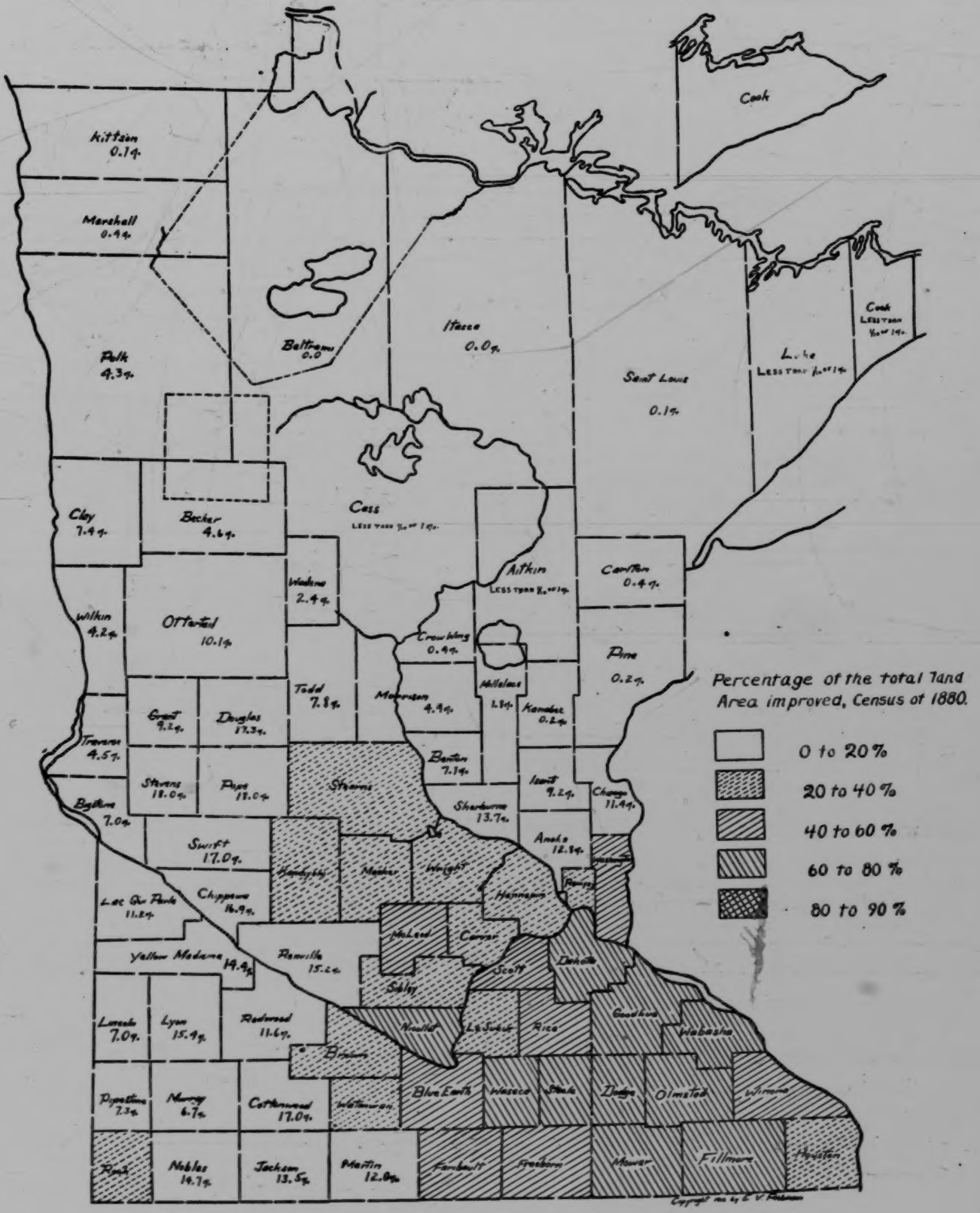
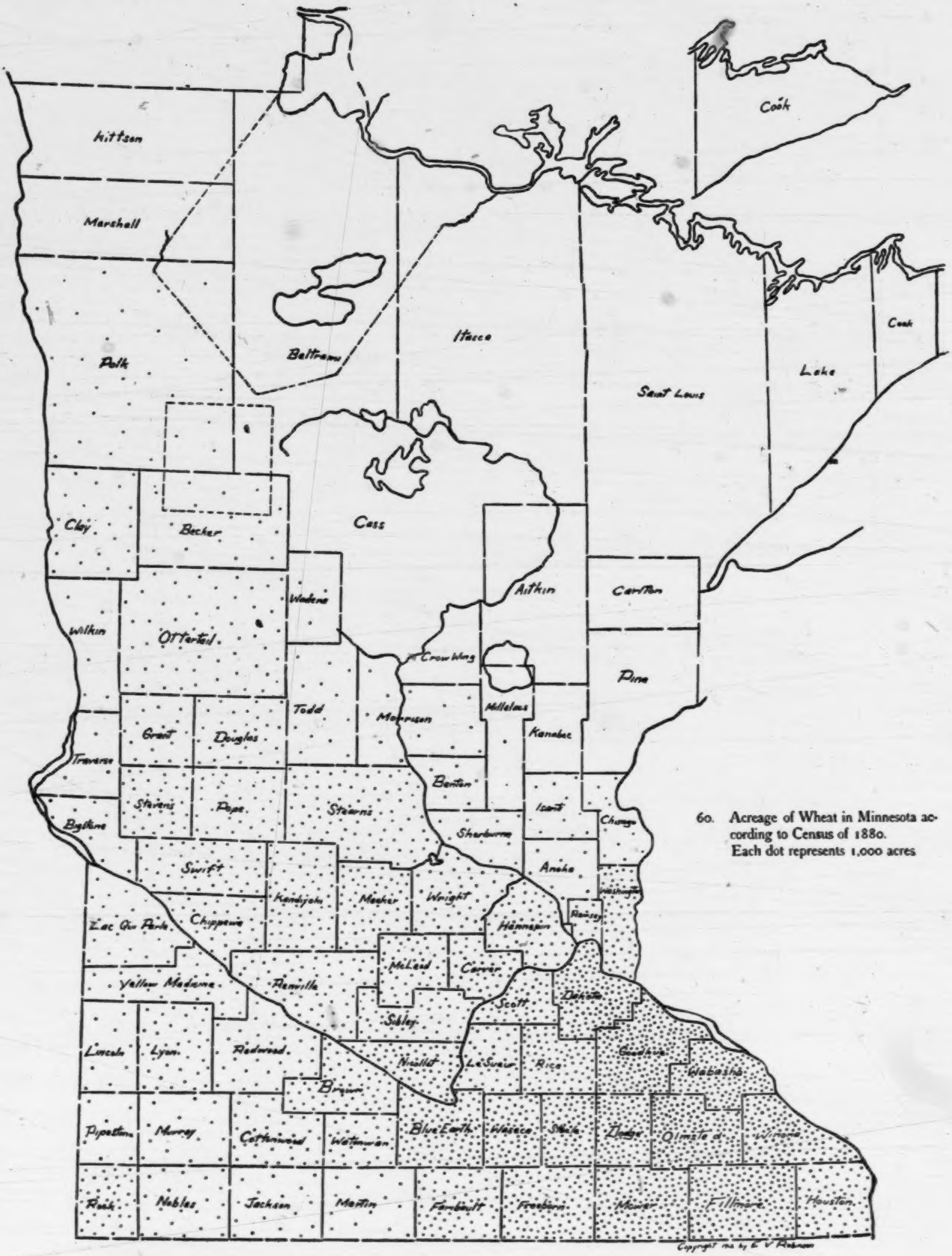

Kittson 0.1%
Marshall 0.4%
Polk 4.3%
Beltrami 0.0
Itasca 0.0%
Cook
Saint Louis 0.1%
Lake Less than 1/10 of 1%
Cook Less than 1/10 of 1%
Cass Less than 1/10 of 1%
Clay 7.4%
Becker 4.6%
Wadena 2.4%
Aitkin Less than 1/10 of 1%
Carlton 0.4%
Wilkin 4.2%
Ottertail 10.1%
Crow Wing 0.4%
Pine 0.2%
Todd 7.8%
Morrison 4.4%
Mille Lacs 1.8%
Kanabec 0.2%
Grant 9.2%
Douglas 17.3%
Traverse 4.5%
Benton 7.1%
Stevens 11.0%
Pope 11.0%
Stearns
Isanti 9.2%
Chisago 11.4%
Big Stone 7.0%
Sherburne 13.7%
Anoka 12.8%
Swift 17.0%
Kandiyohi
Meeker
Wright
Hennepin
Ramsey
Washington
Lac Qui Parle 11.2%
Chippewa 16.9%
McLeod
Carver
Yellow Medicine 14.9%
Renville 15.2%
Scott
Dakota
Sibley
Lincoln 7.0%
Lyon 15.4%
Redwood 11.6%
Nicollet
Le Sueur
Rice
Goodhue
Wabasha
Brown
Pipestone 7.3%
Murray 6.7%
Cottonwood 17.0%
Watonwan
Blue Earth
Waseca
Steele
Dodge
Olmsted
Winona
Rock
Nobles 14.7%
Jackson 13.5%
Martin 12.0%
Faribault
Freeborn
Mower
Fillmore
Houston
Percentage of the total land Area improved, Census of 1880.
0 to 20%
20 to 40%
40 to 60%
60 to 80%
80 to 90%
Copyright [illegible] by E. V. [illegible]

Figure 82. Percentage of total land area improved for farming purposes in 1880.


Kittson
Marshall
Polk
Beltrami
Itasca
Cook
Saint Louis
Lake
Cook
Clay
Becker
Cass
Wadena
Otter Tail
Wilkin
Aitkin
Carlton
Crow Wing
Pine
Todd
Morrison
Millelacs
Kanabec
Grant
Douglas
Traverse
Benton
Stevens
Pope
Stearns
Isanti
Chisago
Big Stone
Sherburne
Swift
Anoka
Washington
Kandiyohi
Meeker
Wright
Hennepin
Ramsey
Lac Qui Parle
Chippewa
McLeod
Carver
Yellow Medicine
Renville
Scott
Dakota
Sibley
Lincoln
Lyon
Redwood
Goodhue
Wabasha
Nicollet
Le Sueur
Rice
Brown
Pipestone
Murray
Cottonwood
Watonwan
Blue Earth
Waseca
Steele
Dodge
Olmsted
Winona
Rock
Nobles
Jackson
Martin
Faribault
Freeborn
Mower
Fillmore
Houston

60. Acreage of Wheat in Minnesota according to Census of 1880.
Each dot represents 1,000 acres

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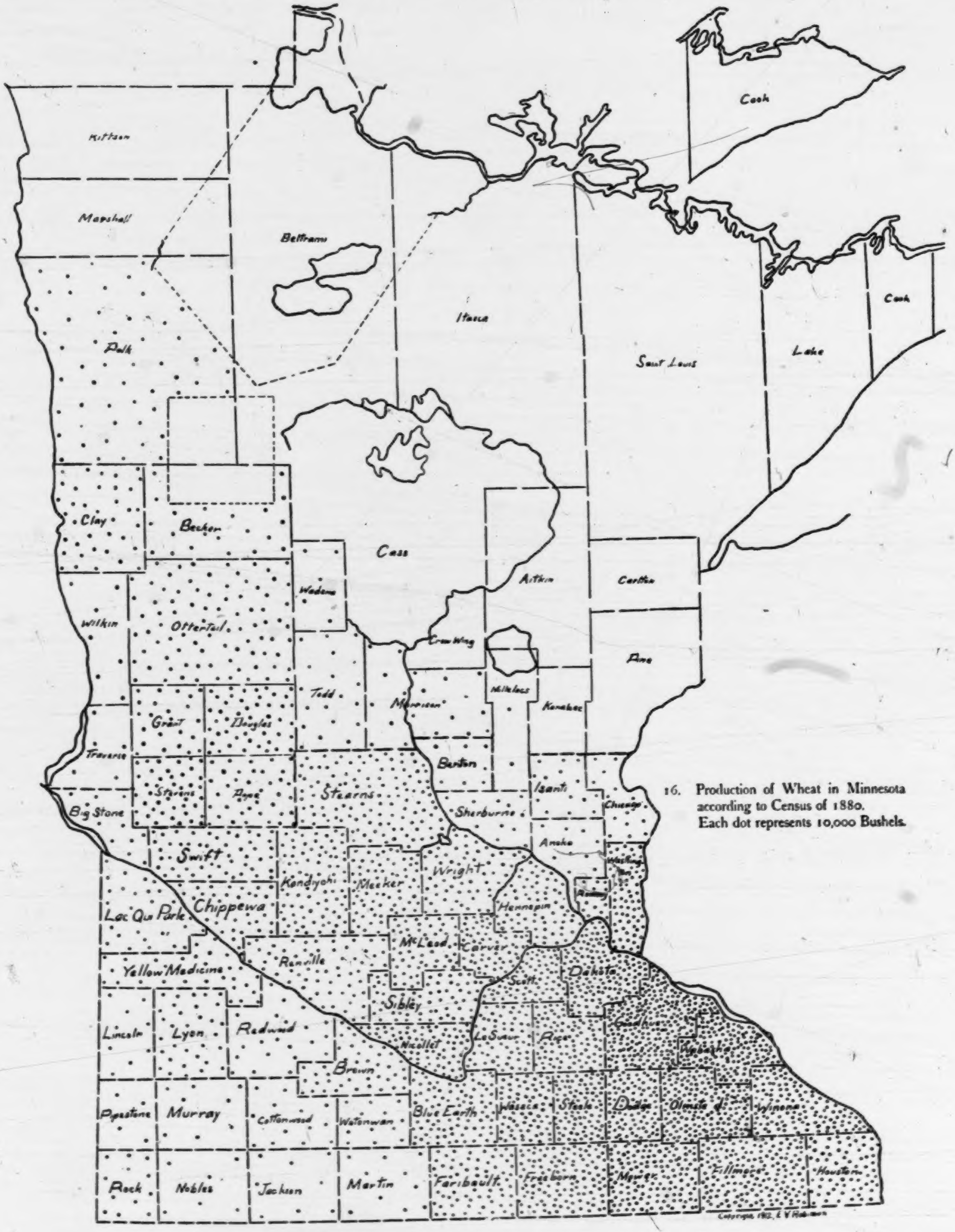
Figure 83. Acreage of wheat in 1879 according to census of 1880. (Based on Table XIII)


Kittson
Marshall
Beltrami
Cook
Itasca
Saint Louis
Lake
Cook
Polk
Clay
Becker
Cass
Wadena
Aitkin
Carlton
Wilkin
Otter Tail
Crow Wing
Pine
Todd
Morrison
Mille Lacs
Kanabec
Grant
Douglas
Traverse
Benton
Isanti
Stevens
Pope
Stearns
Chisago
Big Stone
Sherburne
Anoka
Swift
Kandiyohi
Meeker
Wright
Washington
Ramsey
Lac Qui Parle
Chippewa
Hennepin
McLeod
Carver
Yellow Medicine
Renville
Scott
Dakota
Sibley
Goodhue
Lincoln
Lyon
Redwood
Nicollet
Le Sueur
Rice
Wabasha
Brown
Pipestone
Murray
Cottonwood
Watonwan
Blue Earth
Waseca
Steele
Dodge
Olmsted
Winona
Rock
Nobles
Jackson
Martin
Faribault
Freeborn
Mower
Fillmore
Houston
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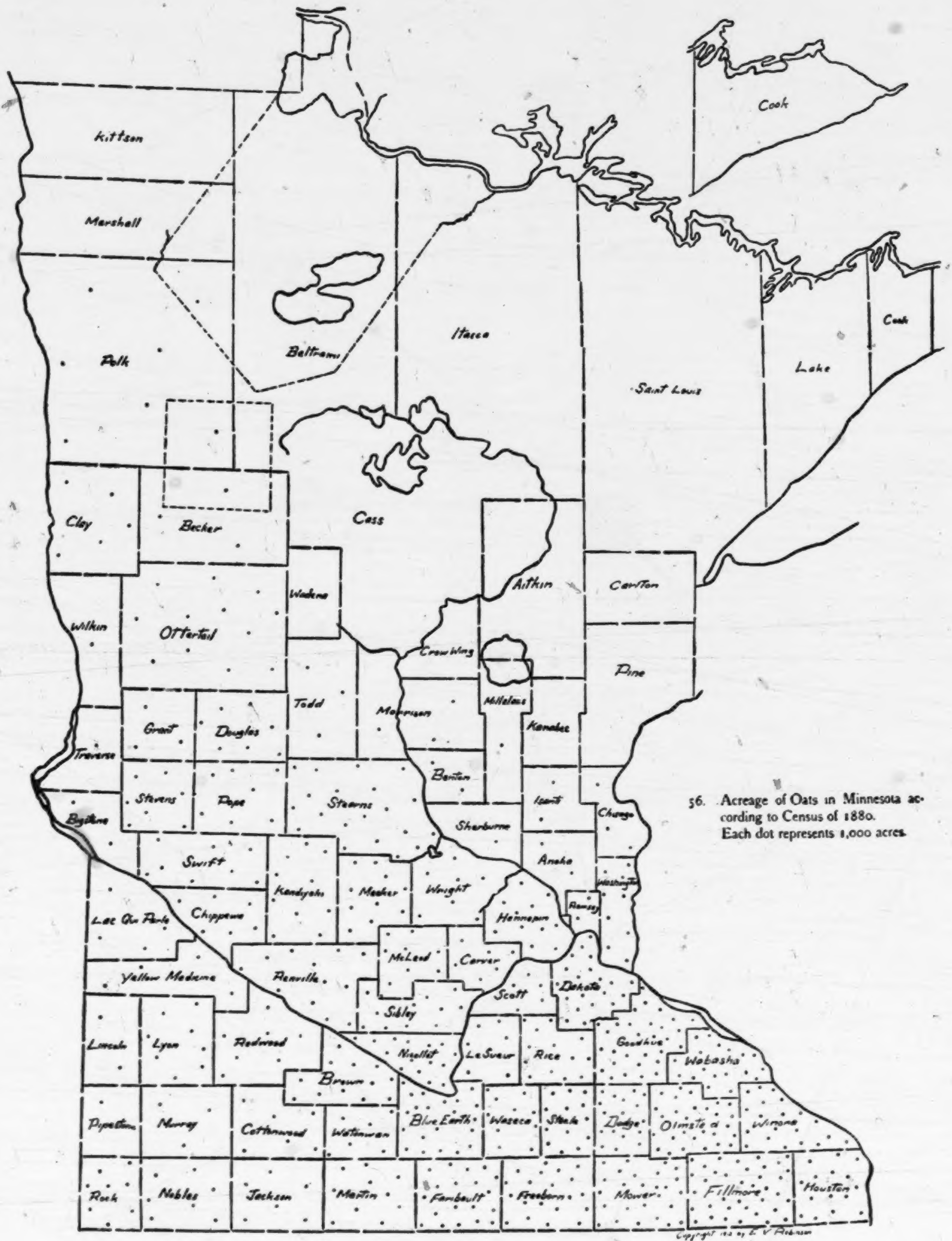
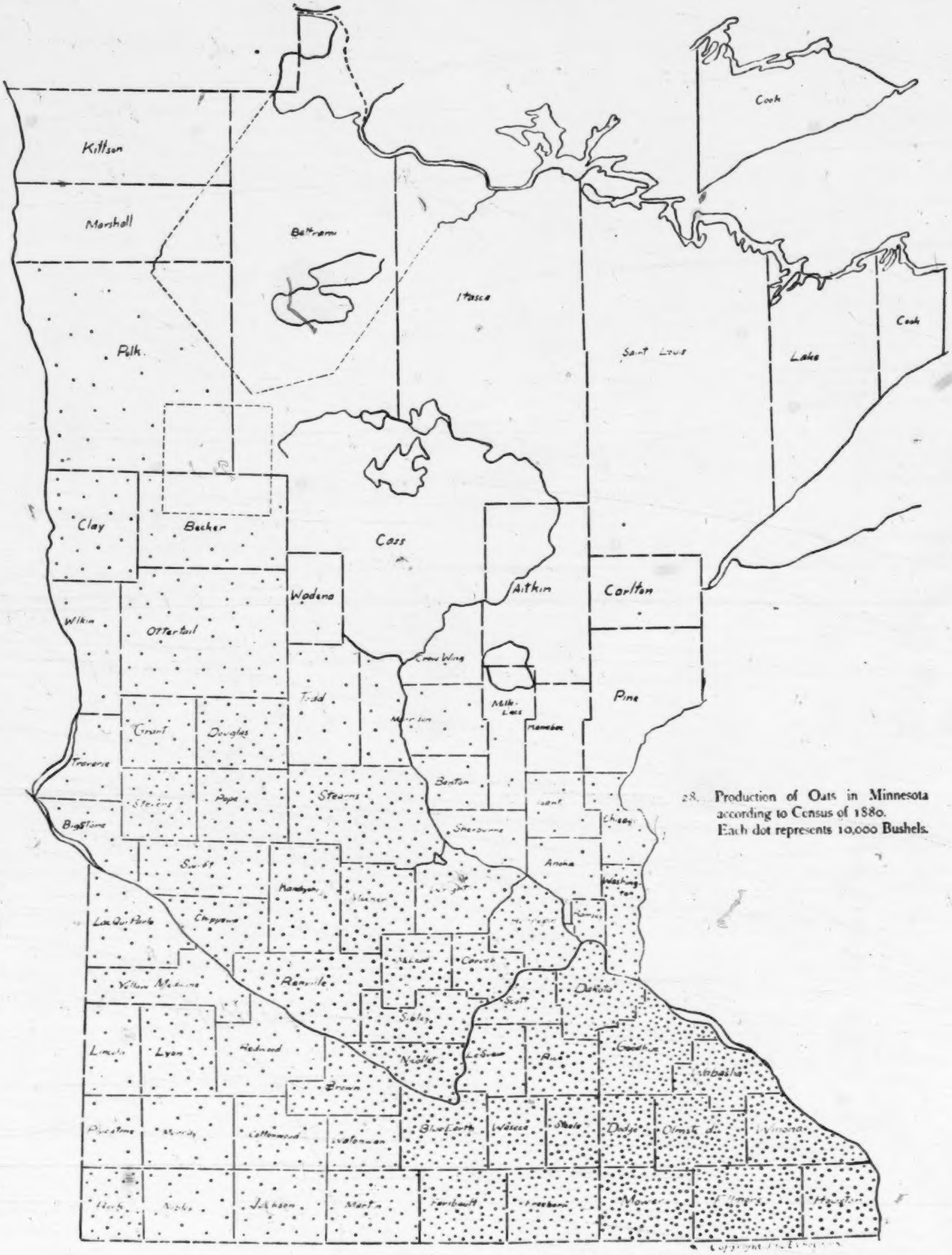
16. Production of Wheat in Minnesota
according to Census of 1880.
Each dot represents 10,000 Bushels.

Figure 84. Production of wheat in 1879 according to census of 1880. (Based on Table XIII)


Cook
Kittson
Marshall
Polk
Beltrami
Itasca
Saint Louis
Lake
Cook
Clay
Becker
Cass
Aitkin
Carlton
Wadena
Wilkin
Ottertail
Crow Wing
Pine
Todd
Morrison
Mille Lacs
Kanabec
Grant
Douglas
Traverse
Benton
Stevens
Pope
Stearns
Isanti
Chisago
Big Stone
Sherburne
Swift
Anoka
Washington
Kandiyohi
Meeker
Wright
Ramsey
Lac Qui Parle
Chippewa
Hennepin
McLeod
Carver
Yellow Medicine
Renville
Scott
Dakota
Sibley
Lincoln
Lyon
Redwood
Goodhue
Nicollet
Le Sueur
Rice
Wabasha
Brown
Pipestone
Murray
Cottonwood
Watonwan
Blue Earth
Waseca
Steele
Dodge
Olmsted
Winona
Rock
Nobles
Jackson
Martin
Faribault
Freeborn
Mower
Fillmore
Houston
Copyright 19.. by E. V. Robinson

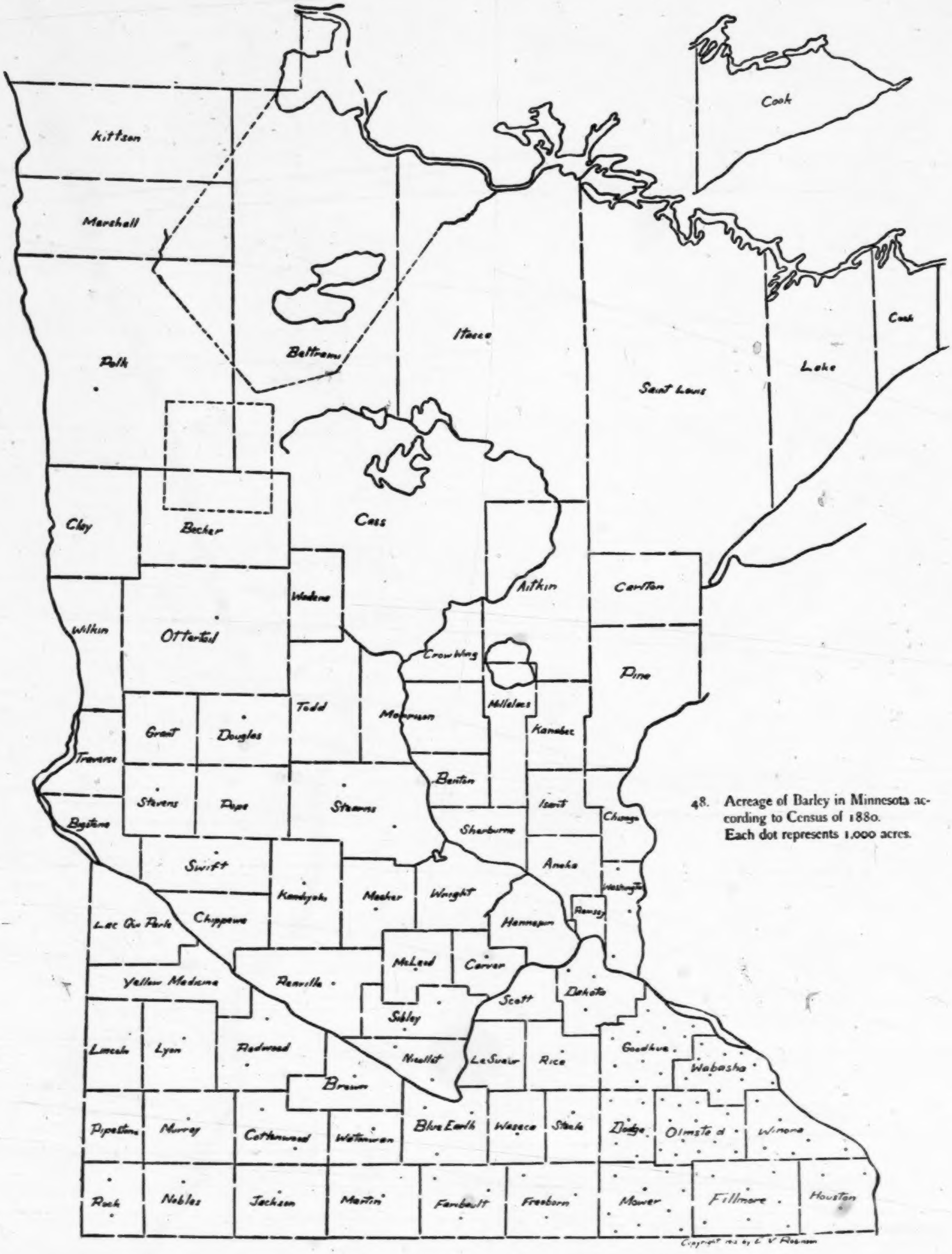
56. Acreage of Oats in Minnesota according to Census of 1880.
Each dot represents 1,000 acres.

Figure 85. Acreage of oats in 1879 according to census of 1880. (Based on Table XIV)


Cook
Kittson
Marshall
Beltrami
Itasca
Cook
Polk
Saint Louis
Lake
Clay
Becker
Cass
Aitkin
Carlton
Wadena
Wilkin
Ottertail
Crow Wing
Todd
Morrison
Mille Lacs
Kanabec
Pine
Grant
Douglas
Traverse
Stevens
Pope
Stearns
Benton
Isanti
Chisago
Big Stone
Sherburne
Swift
Anoka
Washington
Kandiyohi
Meeker
Wright
Hennepin
Ramsey
Lac Qui Parle
Chippewa
McLeod
Carver
Yellow Medicine
Renville
Dakota
Scott
Sibley
Lincoln
Lyon
Redwood
Nicollet
Le Sueur
Rice
Goodhue
Wabasha
Brown
Pipestone
Murray
Cottonwood
Watonwan
Blue Earth
Waseca
Steele
Dodge
Olmsted
Winona
Rock
Nobles
Jackson
Martin
Faribault
Freeborn
Mower
Fillmore
Houston
Copyright

28. Production of Oats in Minnesota according to Census of 1880.
Each dot represents 10,000 Bushels.

Figure 86. Production of oats in 1879 according to the census of 1880. (Based on Table XIV)


Kittson
Marshall
Polk
Beltrami
Itasca
Saint Louis
Cook
Lake
Cook
Clay
Becker
Cass
Aitkin
Carlton
Wilkin
Ottertail
Wadena
Crow Wing
Pine
Todd
Morrison
Millelacs
Kanabec
Grant
Douglas
Traverse
Benton
Stevens
Pope
Stearns
Isanti
Chisago
Big Stone
Sherburne
Swift
Kandiyohi
Meeker
Wright
Anoka
Washington
Ramsey
Lac Qui Parle
Chippewa
Hennepin
McLeod
Carver
Yellow Medicine
Renville
Scott
Dakota
Sibley
Lincoln
Lyon
Redwood
Goodhue
Nicollet
Le Sueur
Rice
Wabasha
Brown
Pipestone
Murray
Cottonwood
Watonwan
Blue Earth
Waseca
Steele
Dodge
Olmsted
Winona
Rock
Nobles
Jackson
Martin
Faribault
Freeborn
Mower
Fillmore
Houston
Copyright [illegible] by E. V. Robinson

48. Acreage of Barley in Minnesota according to Census of 1880.
Each dot represents 1,000 acres.

Figure 87. Acreage of barley in 1879 according to the census of 1880. (Based on Table XVI)

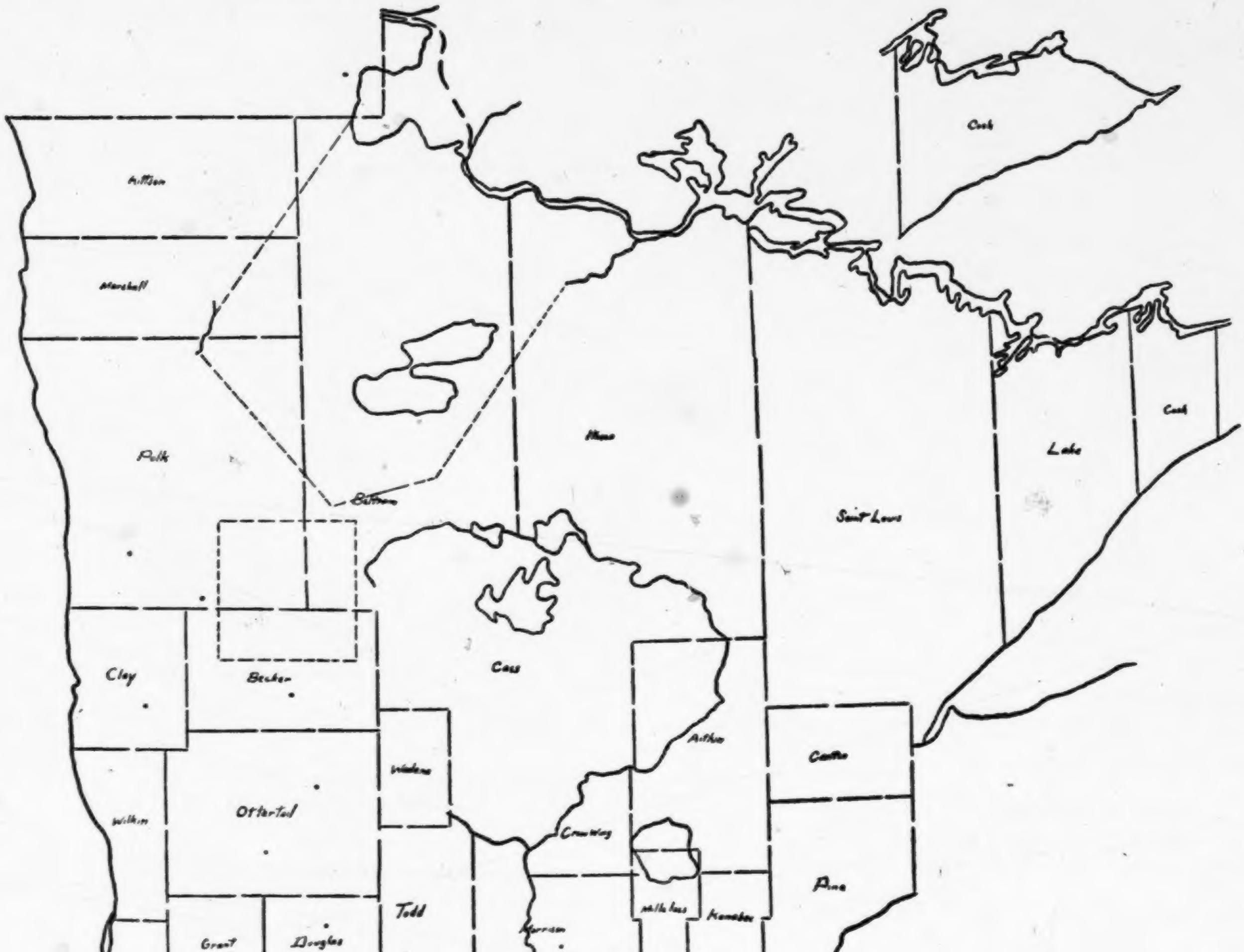

Kittson
Marshall
Polk
Beltrami
Itasca
Cook
Lake
Saint Louis
Cass
Clay
Becker
Wadena
Aitkin
Carlton
Ottertail
Wilkin
Crow Wing
Todd
Grant
Douglas
Morrison
Mille Lacs
Kanabec
Pine
Traverse
Stevens
Pope
Stearns
Benton
Isanti
Chisago
Sherburne
Big Stone
Swift
Anoka
Washington
Kandiyohi
Meeker
Wright
Hennepin
Ramsey
Lac Qui Parle
Chippewa
McLeod
Carver
Yellow Medicine
Renville
Scott
Dakota
Sibley
Lincoln
Lyon
Redwood
Nicollet
Le Sueur
Rice
Goodhue
Wabasha
Brown
Pipestone
Murray
Cottonwood
Watonwan
Blue Earth
Waseca
Steele
Dodge
Olmsted
Winona
Rock
Nobles
Jackson
Martin
Faribault
Freeborn
Mower
Fillmore
Houston
34. Production of Barley in Minnesota according to Census of 1880. Each dot represents 10,000 Bushels.
Copyright 1912, E.V. Robinson.

Figure 88. Production of barley in 1879 according to the census of 1880. (Based on Table XVI)

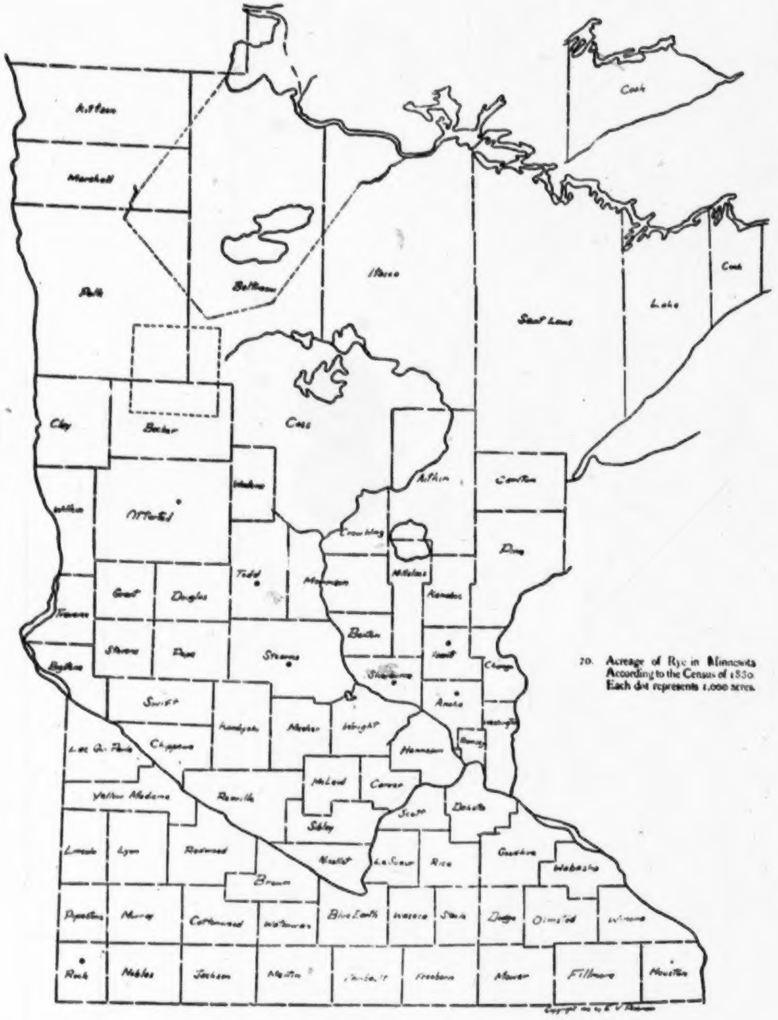

70. Acreage of Rye in Minnesota
According to the Census of 1880
Each dot represents 1,000 acres.
Kittson
Marshall
Polk
Beltrami
Itasca
Saint Louis
Lake
Cook
Clay
Becker
Cass
Aitkin
Carlton
Wilkin
Otter Tail
Wadena
Crow Wing
Pine
Todd
Morrison
Mille Lacs
Kanabec
Grant
Douglas
Traverse
Stevens
Pope
Stearns
Benton
Isanti
Chisago
Big Stone
Sherburne
Anoka
Swift
Kandiyohi
Meeker
Wright
Washington
Lac Qui Parle
Chippewa
Hennepin
Ramsey
McLeod
Carver
Yellow Medicine
Renville
Dakota
Scott
Sibley
Lincoln
Lyon
Redwood
Nicollet
Le Sueur
Rice
Goodhue
Wabasha
Brown
Pipestone
Murray
Cottonwood
Watonwan
Blue Earth
Waseca
Steele
Dodge
Olmsted
Winona
Rock
Nobles
Jackson
Martin
Faribault
Freeborn
Mower
Fillmore
Houston

Figure 89. Acreage of rye in 1879 according to census of 1880. (Based on Table XVII)

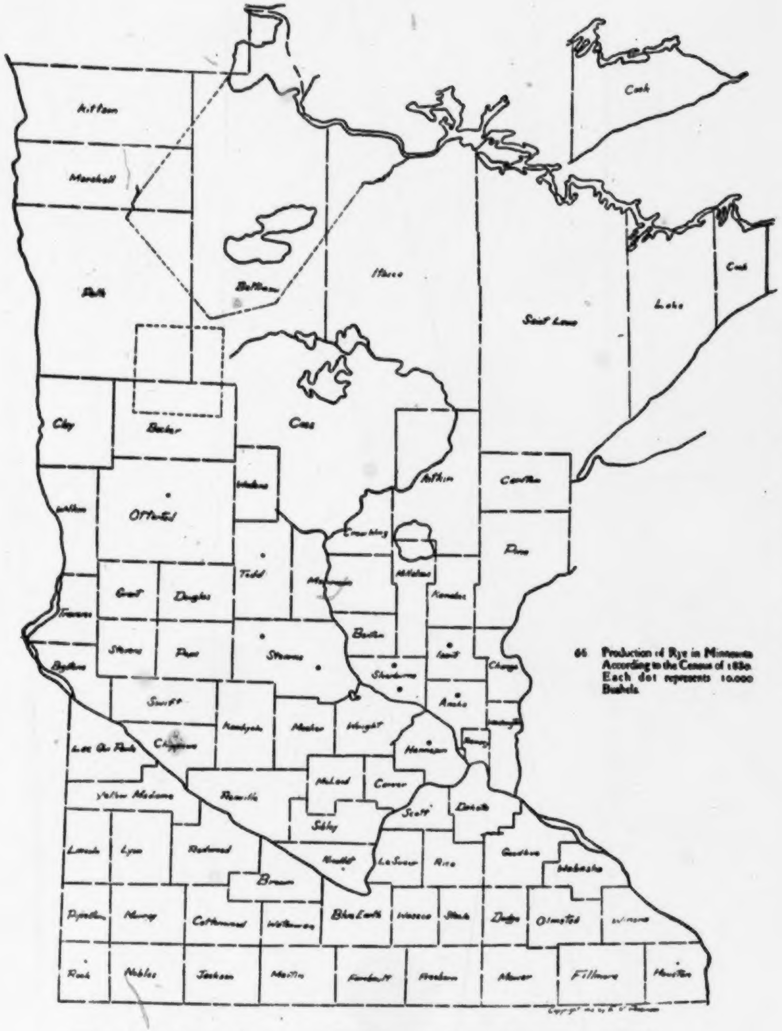
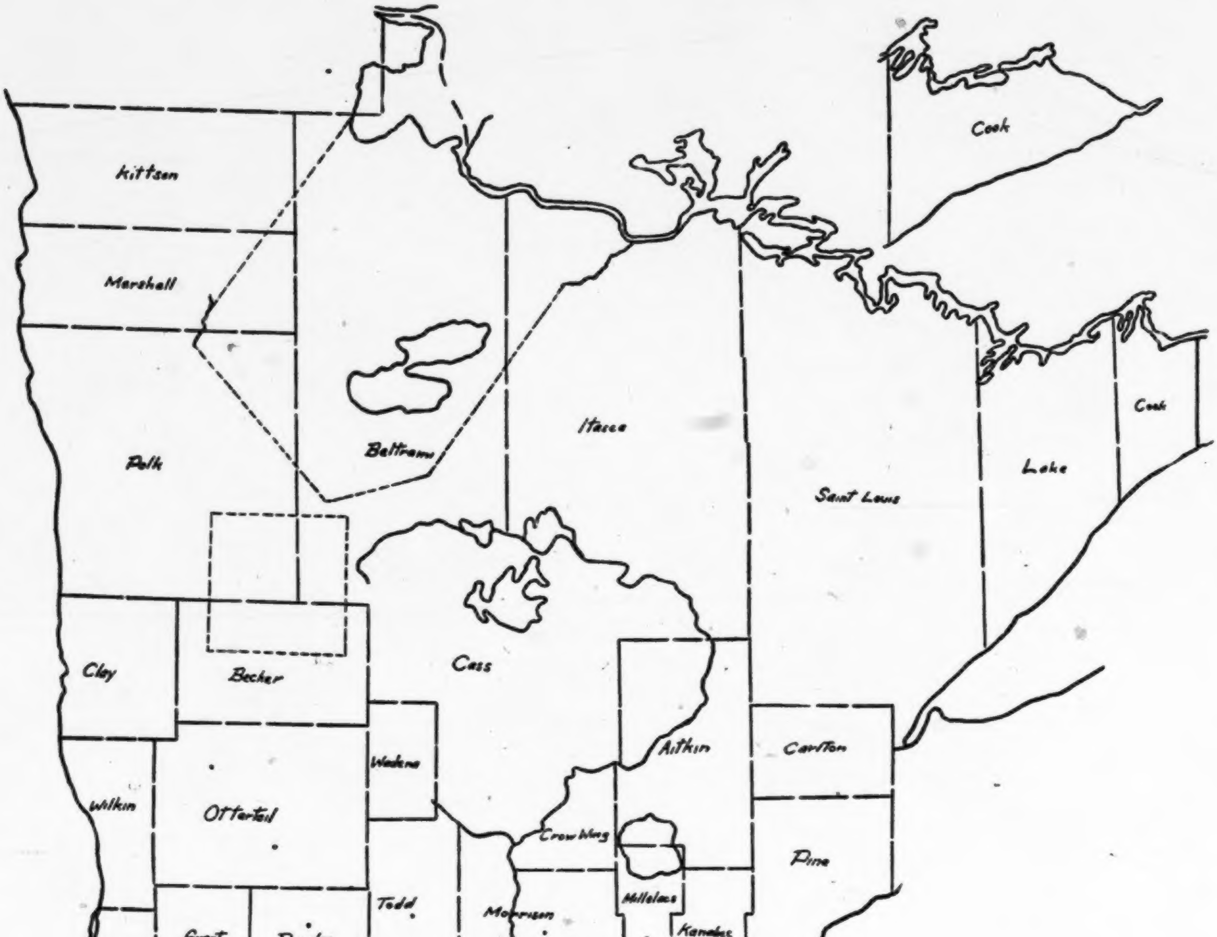

66 Production of Rye in Minnesota
According to the Census of 1880
Each dot represents 10,000
Bushels
Kittson
Marshall
Polk
Beltrami
Itasca
Saint Louis
Lake
Cook
Clay
Becker
Cass
Aitkin
Carlton
Wilkin
Otter Tail
Wadena
Crow Wing
Pine
Todd
Morrison
Mille Lacs
Kanabec
Grant
Douglas
Traverse
Stevens
Pope
Stearns
Benton
Isanti
Chisago
Big Stone
Sherburne
Anoka
Swift
Kandiyohi
Meeker
Wright
Washington
Lac Qui Parle
Chippewa
Hennepin
Ramsey
McLeod
Carver
Yellow Medicine
Renville
Dakota
Scott
Sibley
Lincoln
Lyon
Redwood
Nicollet
Le Sueur
Rice
Goodhue
Wabasha
Brown
Pipestone
Murray
Cottonwood
Watonwan
Blue Earth
Waseca
Steele
Dodge
Olmsted
Winona
Rock
Nobles
Jackson
Martin
Faribault
Freeborn
Mower
Fillmore
Houston

Figure 90. Production of rye in 1879 according to the census of 1880. (Based on Table XVII)


Kittson
Marshall
Polk
Beltrami
Itasca
Saint Louis
Cook
Lake
Cook
Clay
Becker
Cass
Aitkin
Carlton
Wadena
Wilkin
Ottertail
Crow Wing
Pine
Todd
Morrison
Mille Lacs
Kanabec
Grant
Douglas
Traverse
Benton
Stevens
Pope
Stearns
Isanti
Chisago
Big Stone
Sherburne
Anoka
Swift
Washington
Kandiyohi
Meeker
Wright
Ramsey
Lac Qui Parle
Chippewa
Hennepin
McLeod
Carver
Yellow Medicine
Renville
Dakota
Scott
Sibley
Lincoln
Lyon
Redwood
Goodhue
Nicollet
Le Sueur
Rice
Wabasha
Brown
Pipestone
Murray
Cottonwood
Watonwan
Blue Earth
Waseca
Steele
Dodge
Olmsted
Winona
Rock
Nobles
Jackson
Martin
Faribault
Freeborn
Mower
Fillmore
Houston

52. Acreage of Corn in Minnesota according to Census of 1880.
Each dot represents 1,000 acres.

Figure 91. Acreage of corn in 1879 according to the census of 1880. (Based on Table XV)

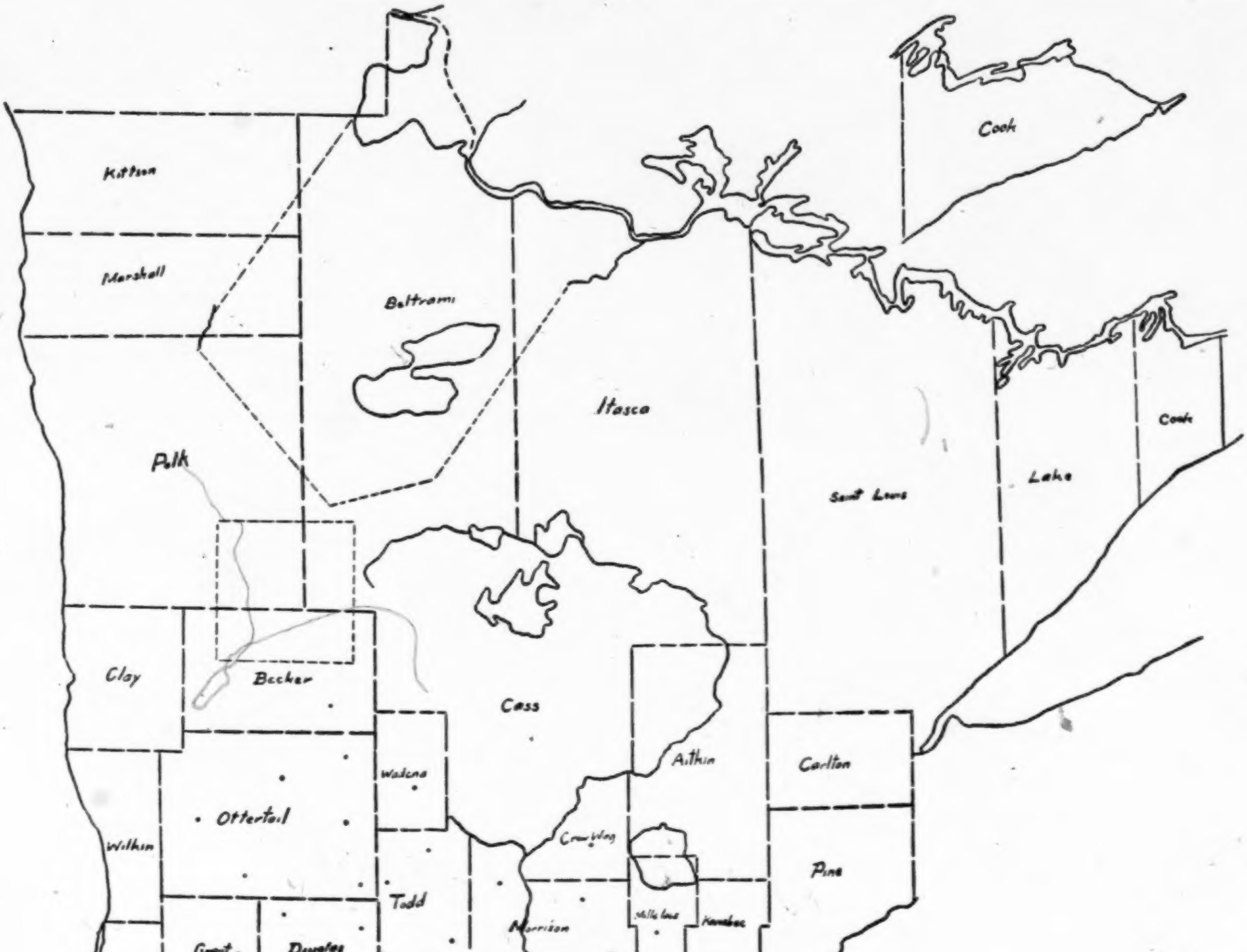

Kittson
Marshall
Beltrami
Cook
Polk
Itasca
Saint Louis
Lake
Cook
Clay
Becker
Cass
Wadena
Ottertail
Aitkin
Carlton
Wilkin
Crow Wing
Pine
Todd
Morrison
Mille Lacs
Kanabec
Grant
Douglas
Traverse
Benton
Stevens
Pope
Stearns
Isanti
Chisago
Sherburne
Big Stone
Swift
Anoka
Washington
Kandiyohi
Meeker
Wright
Ramsey
Hennepin
Lac Qui Parle
Chippewa
McLeod
Carver
Renville
Scott
Dakota
Yellow Medicine
Sibley
Lincoln
Lyon
Redwood
Nicollet
Le Sueur
Rice
Goodhue
Wabasha
Brown
Pipestone
Murray
Cottonwood
Watonwan
Blue Earth
Waseca
Steele
Dodge
Olmsted
Winona
Rock
Nobles
Jackson
Martin
Faribault
Freeborn
Mower
Fillmore
Houston
22. Production of Corn in Minnesota according to Census of 1880. Each dot represents 10,000 Bushels.
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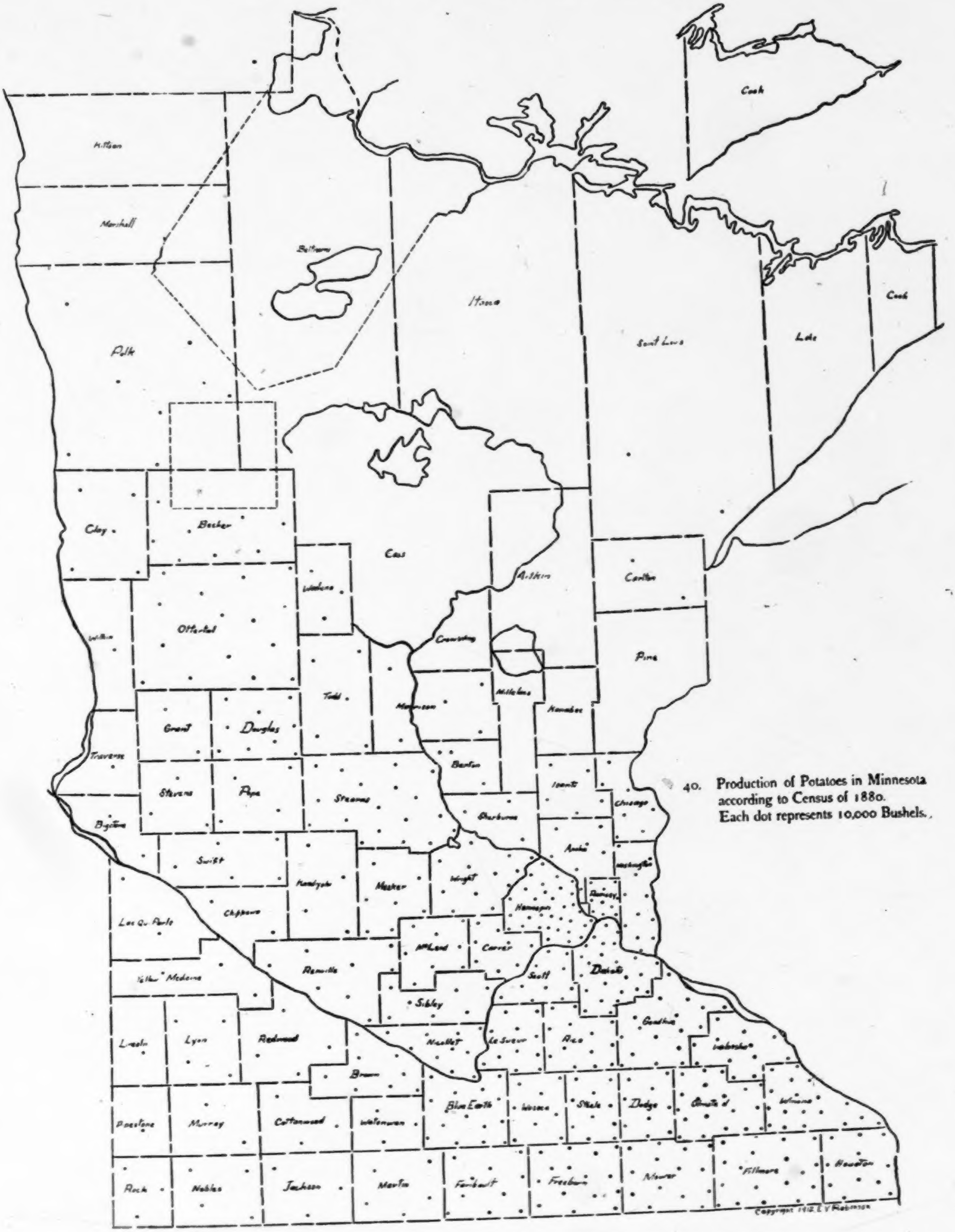
Figure 92. Production of corn in 1879 according to the census of 1880. (Based on Table XV)


Kittson
Cook
Marshall
Beltrami
Itasca
Cook
Polk
Saint Louis
Lake
Clay
Becker
Cass
Wadena
Aitkin
Carlton
Otter Tail
Wilkin
Crow Wing
Pine
Todd
Morrison
Mille Lacs
Kanabec
Grant
Douglas
Traverse
Benton
Isanti
Stevens
Pope
Stearns
Chisago
Sherburne
Big Stone
Anoka
Swift
Washington
Kandiyohi
Meeker
Wright
Ramsey
Hennepin
Lac Qui Parle
Chippewa
McLeod
Carver
Dakota
Renville
Scott
Yellow Medicine
Sibley
Goodhue
Lincoln
Lyon
Redwood
Nicollet
Le Sueur
Rice
Wabasha
Brown
Blue Earth
Waseca
Steele
Dodge
Olmsted
Winona
Pipestone
Murray
Cottonwood
Watonwan
Rock
Nobles
Jackson
Martin
Faribault
Freeborn
Mower
Fillmore
Houston
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40. Production of Potatoes in Minnesota according to Census of 1880.
Each dot represents 10,000 Bushels.

Figure 93. Production of potatoes in 1879 according to census of 1880. (Based on Table XVIII)

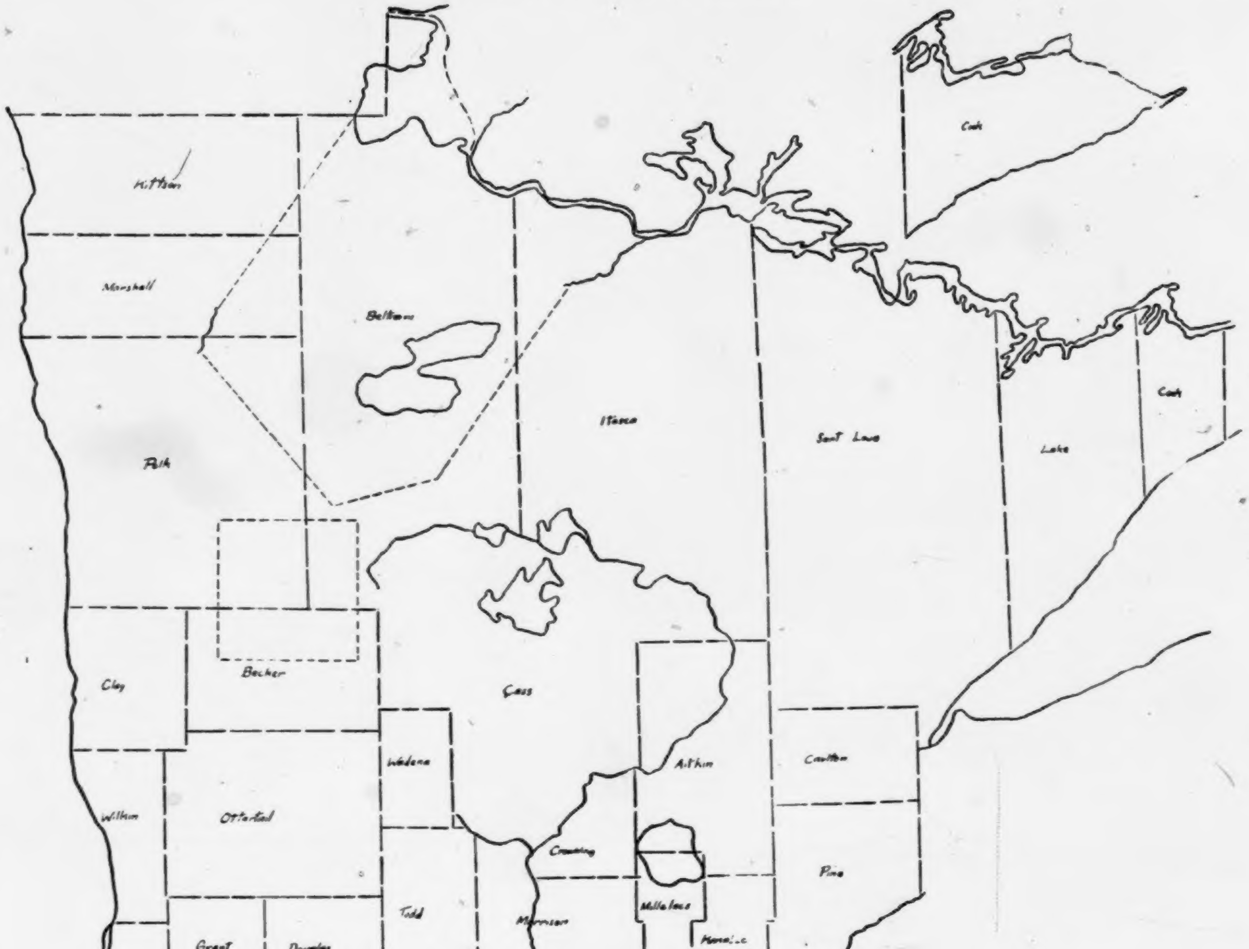
Kittson
Marshall
Beltrami
Polk
Itasca
Saint Louis
Lake
Cook
Cook
Clay
Becker
Cass
Wadena
Aitkin
Carlton
Wilkin
Ottertail
Crow Wing
Pine
Mille Lacs
Todd
Morrison
Grant
Douglas
Kanabec
Traverse
Benton
Stevens
Pope
Stearns
Isanti
Chisago
Big Stone
Sherburne
Swift
Anoka
Kandiyohi
Meeker
Wright
Washington
Ramsey
Chippewa
Hennepin
Lac Qui Parle
McLeod
Carver
Renville
Yellow Medicine
Scott
Dakota
Sibley
Lincoln
Lyon
Redwood
Goodhue
Nicollet
Le Sueur
Rice
Wabasha
Brown
Pipestone
Murray
Cottonwood
Watonwan
Blue Earth
Waseca
Steele
Dodge
Olmsted
Winona
Rock
Nobles
Jackson
Martin
Faribault
Freeborn
Mower
Fillmore
Houston
44. Production of Flaxseed in Minnesota according to Census of 1880. Each dot represents 10,000 Bushels.
Copyright [illegible]

Figure 94. Production of flaxseed in 1879 according to census of 1880. (Based on Table XIX)

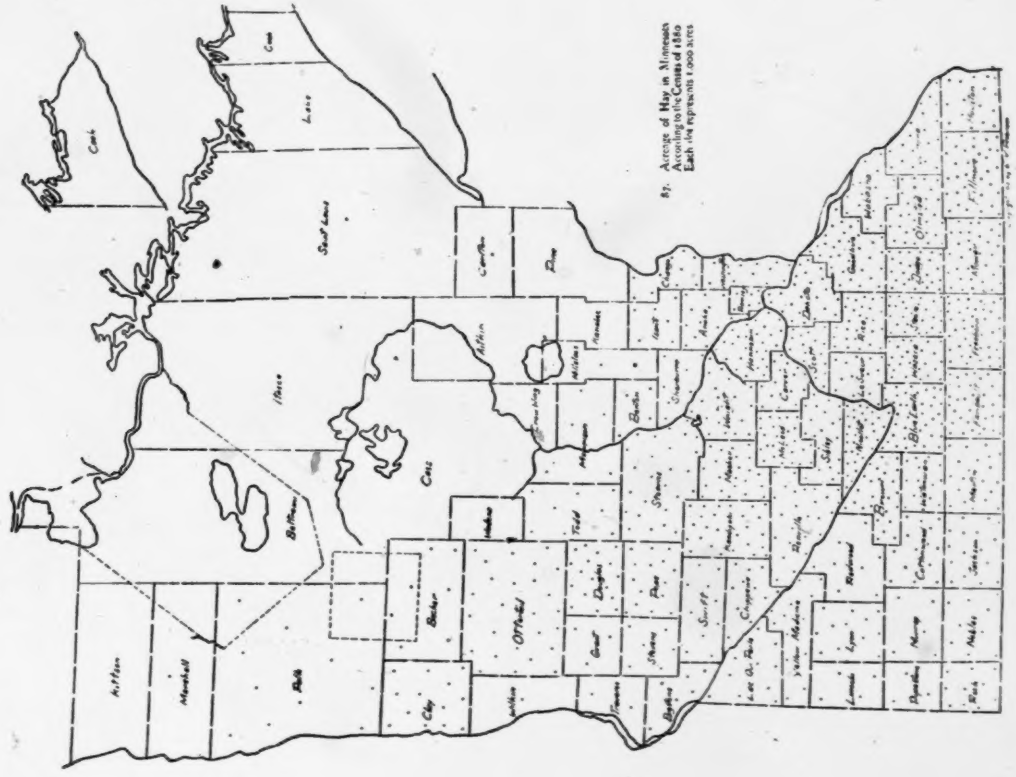
82. Acreage of Hay in Minnesota According to the Census of 1880 Each dot represents 1,000 acres

Figure 95. Acreage of hay (wild and cultivated) in 1879 according to census of 1880.

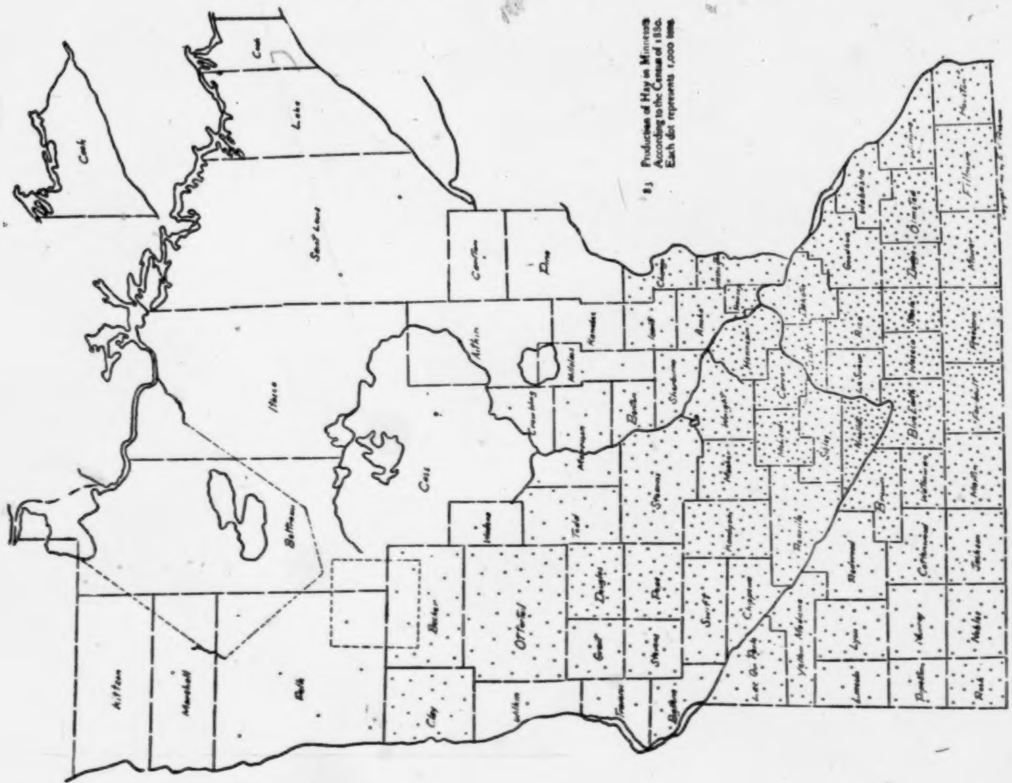
83. Production of Hay in Minnesota According to the Census of 1880. Each dot represents 1,000 tons

Figure 96. Production of hay (wild and cultivated) in 1879 according to the census of 1880.

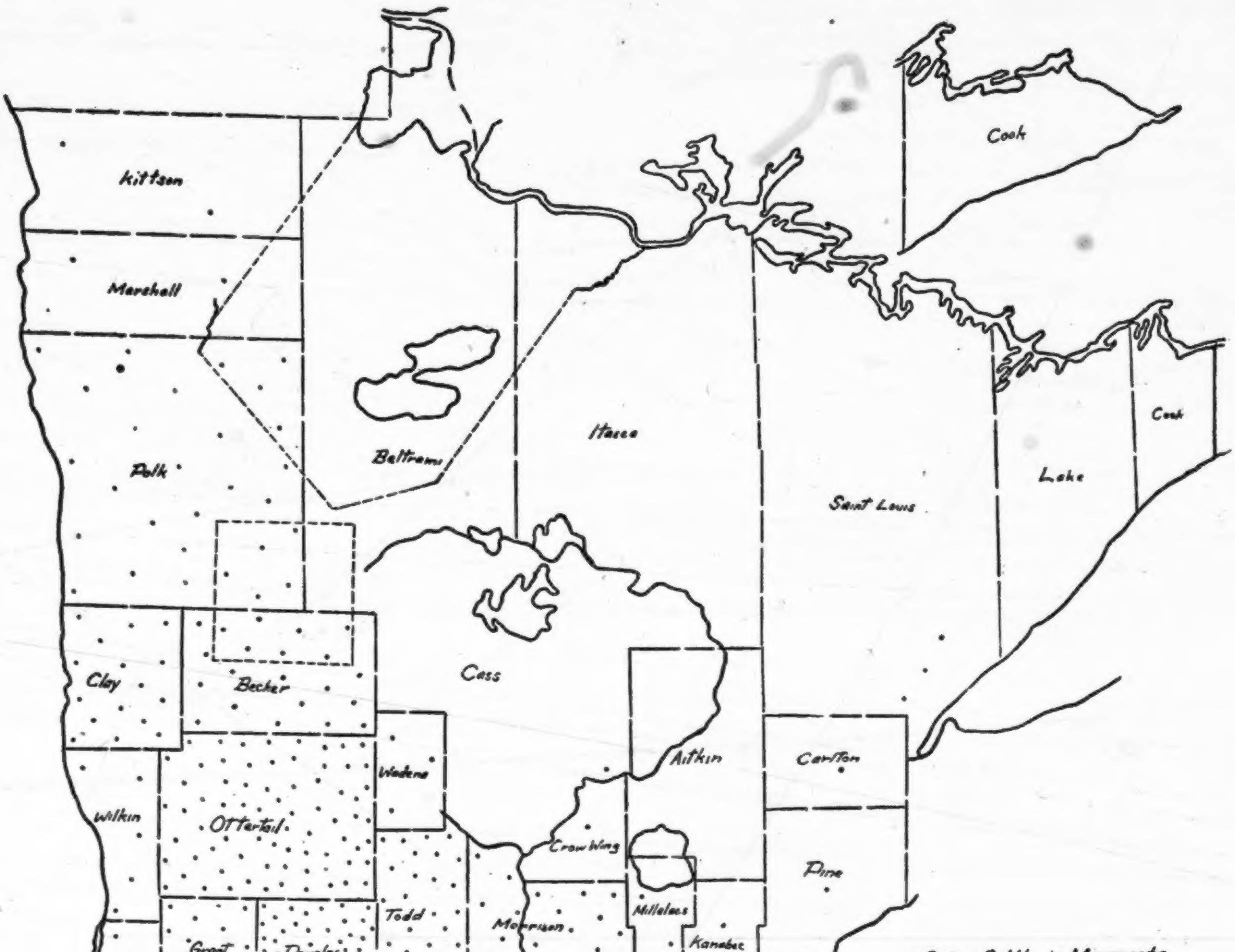
Kittson
Marshall
Polk
Beltrami
Itasca
Saint Louis
Cook
Cook
Lake
Clay
Becker
Cass
Aitkin
Carlton
Wilkin
Ottertail
Wadena
Crow Wing
Pine
Todd
Morrison
Millelacs
Kanabec
Grant
Douglas
Traverse
Benton
Stevens
Pope
Stearns
Isanti
Chisago
Bigstone
Sherburne
Swift
Anoka
Washington
Kandiyohi
Meeker
Wright
Hennepin
Ramsey
Lac Qui Parle
Chippewa
McLeod
Carver
Yellow Medeine
Renville
Scott
Dakota
Sibley
Lincoln
Lyon
Redwood
Nicollet
Le Sueur
Rice
Goodhue
Wabasha
Brown
Pipestone
Murray
Cottonwood
Watonwan
Blue Earth
Waseca
Steele
Dodge
Olmsted
Winona
Rock
Nobles
Jackson
Martin
Faribault
Freeborn
Mower
Fillmore
Houston
Dairy Cattle in Minnesota
According to Census of 1880
Each dot represents 100 Cows
Copyright [illegible] by E. V. Robinson

Figure 97. Distribution of dairy cows on farms according to census of 1880. (Based on Table XXIV)

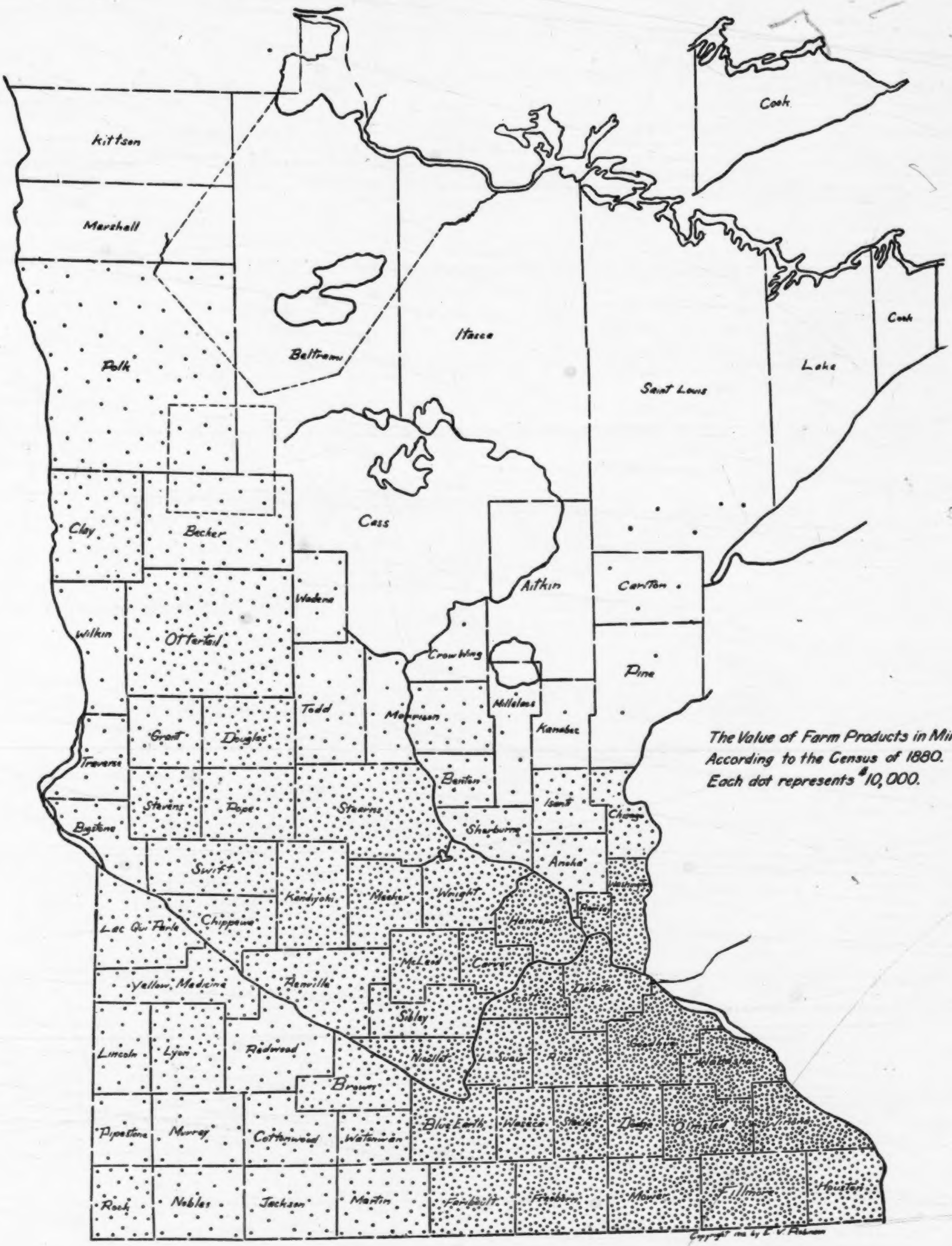
The Value of Farm Products in Minnesota
According to the Census of 1880.
Each dot represents $10,000.
Kittson
Cook
Marshall
Polk
Beltrami
Itasca
Saint Louis
Lake
Cook
Clay
Becker
Cass
Wilkin
Ottertail
Wadena
Aitkin
Carlton
Crow Wing
Todd
Morrison
Mille Lacs
Kanabec
Pine
Grant
Douglas
Traverse
Benton
Isanti
Chisago
Stevens
Pope
Stearns
Sherburne
Big Stone
Anoka
Washington
Swift
Kandiyohi
Meeker
Wright
Hennepin
Ramsey
Lac Qui Parle
Chippewa
McLeod
Carver
Yellow Medicine
Renville
Scott
Dakota
Sibley
Goodhue
Lincoln
Lyon
Redwood
Nicollet
Le Sueur
Rice
Wabasha
Brown
Pipestone
Murray
Cottonwood
Watonwan
Blue Earth
Waseca
Steele
Dodge
Olmsted
Winona
Rock
Nobles
Jackson
Martin
Faribault
Freeborn
Mower
Fillmore
Houston
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Figure 98. Total value of farm products in 1879 according to the census of 1880. (Based on Table XXXV)

more than twice as rapid as the gain in sheep (Fig. 76). In the case of dairy products, the greatest ratio of increase was in milk sold, on account of the development of large cities; and next to that, in cheese, especially if both farm and factory products be included. In actual pounds, however, by far the largest increase was in butter (Items 59-69).

In spite of the increase of technical efficiency shown by the ratio of population to products and live stock, or perhaps in part by reason of such greater efficiency in the country at large, values did not increase, from 1870 to 1880, in proportion to products. Thus, the value of farm products rose only 47.9 per cent, the value of live stock 58.6 per cent, and the value of farms 98 per cent, against an increase of 65.8 per cent in country population, 94.8 per cent in value of farm machinery, 106.7 per cent in total acreage of farm land, and 212.1 per cent in acreage of improved land (Items 70-76). One cause of this unfavorable showing was of course the depreciated currency and consequent inflation of prices in 1870. The amount of such inflation has been estimated by the census at 20 per cent; but even when the gold values for 1870 are used, there was very little increase in value of farm products per capita of the country population, from 1870 to 1880, while there was an actual decline of such value per acre of farm land and especially per acre of improved farm land. The value of farms, on the other hand, increased considerably per capita of the country population and also per acre included in farms; but failed, as during the previous decade, to keep pace with the increase of improved land.

This decline in value of products per acre and the failure of farm values to advance as rapidly as the acreage of improved land presumably resulted from one fundamental cause—the relative overproduction of farm products and consequent downward trend of prices, which affected even wheat in spite of the new milling processes.

The same condition of agricultural depression thus existed in Minnesota during the seventies as in other western states, though apparently in a less extreme form. As a result, farmers, on the average, found themselves able to accumulate little except through the rise in value of their lands. The inference seems warranted that it was this relative unprofitableness of agriculture which started the rush to the cities and likewise furnished the motive power both of the Granger movement to regulate railroad rates, and of the several cheap money campaigns designed to check the fall of prices.

TABLE 9.—PROGRESS OF AGRICULTURE, 1860-1870, FROM U. S. CENSUS

Items	1860	1870	Percentage of increase or decrease (a minus sign denotes a decrease)	Per 100 of country population	
				1860	1870
I. Population:			%		
1. Country population	122,530	327,698	167.4	....	....
2. Town population	49,493	112,008	126.3	....	....
3. Total population	172,023	439,706	155.7	....	....
II. Acreage:					
4. Improved land in farms, acres	556,250	2,322,102	317.2	454.0	708.63.
5. Unimproved land in farms, acres	2,155,718	4,161,726	93.1	1,759.3	1,270.0
6. Total land in farms, acres	2,711,968	6,483,828	139.3	2,213.3	1,978.6
7. Number of farms	17,999*	46,500	158.4	14.7	14.2
8. Average size of farms, acres	150.7	139.4	—7.5	....	....
9. Average improved land per farm, acres	30.9	49.9	61.5	....	....
III. Farm products:					
10. Wheat, bushels	2,186,973*	18,866,073	762.7	1,784.9	5,757.3
11. Oats, bushels	2,176,002	10,678,261	390.7	1,775.9	3,258.6
12. Barley, bushels	119,568*	1,032,024	763.1	97.6	314.9
13. Rye, bushels	121,411	78,088	—35.7	99.09	23.8
14. Buckwheat, bushels	28,052	52,438	86.9	22.9	16.0
15. Total small grains, bushels	4,632,006	30,706,884	562.9	3,780.3	9,370.7
16. Corn, bushels	2,941,952	4,743,117	61.2	2,401.0	1,447.4
17. Peas and beans, bushels	18,988	46,601	145.4	15.5	14.2
18. Irish potatoes, bushels	2,516,485*	1,943,063	—22.8	2,053.7	593.0
19. Sweet potatoes, bushels	792	1,594	101.3	.65	.49
20. Flaxseed, bushels	118	18,635	15,692.4	.1	5.7
21. Clover seed, bushels	351*	126	—64.1	.29	.03
22. Grass seed, bushels	3,255*	3,045	—6.5	2.1	.93
23. Total, bushel crops, bushels	10,113,947	37,463,065	270.4	8,254.3	11,432.5

*Corrected total to agree with the county items in the census.

Items	1860	1870	Percentage of increase or decrease	Per 100 of country population	
				1860	1870
			%		
24. Hay, tons	269,483*	695,053	157.9	219.9	212.1
25. Rice, pounds	3,286	None	....	2.7	....
26. Tobacco, pounds	38,938	8,247	—78.8	31.8	2.5
27. Hops, pounds	140*	222,065	158,517.9	.11	67.8
28. Hemp, tons	109	None	....	.09	....
29. Flax, pounds	1,983	122,571	6,081.1	1.6	37.4
30. Silk cocoons, pounds	52	None	....	.04	....
31. Maple sugar, pounds	370,669	210,467	—43.2	302.5	64.2
32. Maple syrup, gallons	23,038	12,722	—44.8	18.8	3.9
33. Sorghum syrup, gallons	14,178	38,735	173.1	11.6	11.8
34. Wine, gallons	412	1,750	324.8	.34	.53
35. Orchard products, value	$649	$15,818	2,337.3	$0.53	$4.83
36. Market-garden products, value	$94,704*	$115,234	21.7	$77.29	$35.17
37. Forest products of farms, value	(No report)	$311,528	....	....	$95.06
IV. Live Stock on Farms:					
38. Horses	17,065	93,011	445.0	13.9	28.4
39. Mules and asses	377	2,350	523.9	.31	.72
40. Milch cows	40,444*	121,467	200.3	33.0	37.1
41. Working oxen	27,568	43,176	56.6	22.5	13.2
42. Other cattle	51,345	145,736	183.8	41.9	44.5
43. Sheep	13,044	132,343	914.6	10.6	40.4
44. Swine	101,371	148,473	46.5	82.7	45.3
45. Total live stock	251,214	686,556	173.3	205.0	209.5
V. Animal Products:					
46. Wool, pounds	20,388	401,185	1,867.8	1.7	122.4
47. Butter, pounds	2,957,673	9,522,010	221.9	2,413.8	2,905.8
48. Cheese, pounds	199,314	233,977	17.4	162.7	71.1
49. Milk sold, gallons	(No report)	208,130	....	....	63.5
50. Beeswax, pounds	1,544	3,963	156.7	1.3	1.2
51. Honey, pounds	33,585*	92,606	175.7	27.4	28.3
52. Animals slaughtered or sold for slaughter, value	$751,544	$3,076,650	309.4	$613.36	$938.89
VI. Value of:					
53. Farms	$27,505,922	$97,847,442	255.7	$22,448.32	$29,859.78
54. Live stock	$3,642,841	$20,118,841	452.3	$2,973.02	$6,139.60
55. Implements and machinery	$1,018,183	$6,721,120	560.1	$830.97	$2,051.06
56. Wages paid	(No report)	$4,459,201	....	....	$1,360.80
57. Farm products (including betterments and additions to stock)	(No report)	$33,446,400	....	....	$10,206.72

Comparison of Currency and Gold Values

Figures in italics indicate results if values in 1870 are reduced 20% to allow for depreciation of currency at that date. (See Census 1910, Supp. for Minn., p. 365.)

Items‡	1860	1870	Percentage of increase or decrease	Per 100 of country population	
				1860	1870
			%		
35a. Orchard products, value	$649	$15,818 *$12,654*	2,337.3 *1,849.8*	$0.53	$4.83 *$3.86*
36a. Market-garden products, value	$94,704*	$115,234 *$92,187*	21.7 *—2.7*	$77.29	$35.17 *$28.14*

*Corrected total to agree with the county items in the census.
‡Numbers refer to position of the same items in the preceding table, (a) being added.

Items‡	1860	1870	Percentage of increase or decrease	Per 100 of country population	
				1860	1870
			%		
37a. Forest products of farms, value....	(No report)	$311,528	.. ..	....	$95.06
		$249,222			*$76.05*
52a. Animals slaughtered or sold for slaughter, value..............	$751,544	$3,076,650	309.4	$613.36	$938.89
		$2,461,320	*227.5*		*$751.11*
Value of:					
53a. Farms..........................	$27,505,922	$97,847,442	255.7	$22,448.32	$29,859.78
		$78,277,954	*184.6*		*$23,887.82*
54a. Live stock......................	$3,642,841	$20,118,841	452.3	$2,973.02	$6,139.60
		$16,095,073	*341.8*		*$4,911.68*
55a. Implements and machinery........	$1,018,183	$6,721,120	560.1	$830.97	$2,051.06
		$5,376,895	*428.1*		*$1,640.85*
56a. Wages paid......................	(No report)	$4,459,201	....	....	$1,360.80
		$3,567,361			*$1,088.64*
57a. Farm products including betterments and additions to stock....	(No report)	$33,446,400	....	....	$10,206.72
		$26,757,120			*$8,165.38*

‡Numbers refer to position of the same items in the preceding table with (a) added.

TABLE 10.—PROGRESS OF AGRICULTURE, 1870-1880. (ANALYSIS FROM THE FEDERAL CENSUS)

Items	1870	1880	Percentage of increase or decrease (a minus sign denotes a decrease)	Per 100 of the country population	
				1870	1880
I. Population:			%		
1. Country population................	327,698	543,193	65.8	....	....
2. Town population...................	112,008	237,580	112.1	....	....
3. Total population..................	439,706	780,773	77.6	....	....
II. Acreage:					
4. Improved land in farms, acres......	2,322,102	7,246,693	212.1	708.63	1,334.09
5. Permanent pastures, meadows, orchards, vineyards, acres.......	(No report)	1,727,325	....	....	317.99
6. Tilled land, including fallows and grass in rotation, acres..........	(No report)	5,519,368	....	....	1,016.09
7. Unimproved land in farms, acres....	4,161,726	6,156,326	47.9	1,270.0	1,133.36
8. Woodland, acres...................	1,336,299	2,030,726	52.0	407.8	373.85
9. Total land in farms, acres..........	6,483,828	13,403,019	106.7	1,978.0	2,467.45
10. Number of farms..................	46,500	92,386	98.7	14.2	17.01
11. Average size of farms, acres.........	139.4	145.1	4.1	....	....
12. Average improved land per farm, acres.........................	49.9	78.4	57.1	....	....
III. Farm Products:					
13. Wheat, acres.....................	(No report)	3,044,670	....	....	560.5
14. Wheat, bushels...................	18,866,073	34,601,030	83.4	5,757.3	6,369.9
15. Oats, acres......................	(No report)	617,469	....	....	113.7
16. Oats, bushels....................	10,678,261	23,382,158	119.0	3,258.6	4,304.6
17. Barley, acres....................	(No report)	116,020	....	....	21.4
18. Barley, bushels..................	1,032,024	2,972,965	188.1	314.9	547.3
19. Rye, acres.......................	(No report)	13,614	....	....	2.5
20. Rye, bushels.....................	78,088	215,245	175.6	23.8	39.6
21. Buckwheat, acres.................	(No report)	3,677	....	....	.67
22. Buckwheat, bushels...............	52,438	41,756	—20.4	16.0	7.70
23. Total, small grains, acres..........	(No report)	3,795,450	....	....	698.70
24. Total, small grains, bushels.........	30,706,884	61,213,154	99.3	9,370.7	11,269.10

Items	1870	1880	Percentage of increase or decrease	Per 100 of the country population	
				1870	1880
25. Corn, acres	(No report)	438,737	....	....	80.8
26. Corn, bushels	4,743,117	14,831,741	212.7	1,447.4	2,730.5
27. Peas and beans, bushels	46,601	25,039	—46.3	14.2	4.6
28. Irish potatoes, bushels	1,943,063	5,184,676	166.8	593.0	954.5
29. Sweet potatoes, bushels	1,594	None	....	.49	....
30. Flaxseed, bushels	18,635	98,689	429.6	5.7	18.2
31. Clover seed, bushels	126	18,003	14,188.2	.03	3.3
32. Grass seed, bushels	3,045	30,707	908.5	.93	5.7
33. Total, bushel crops, bushel	37,463,065	81,402,009	117.3	11,432.5	14,985.8
34. Hay,* acres	(No report)	1,053,378	....	....	193.9
35. Hay, tons	695,053	1,637,109	135.5	212.1	301.4
36. Tobacco, acres	(No report)	163	....	....	.03
37. Tobacco, pounds	8,247	69,922	747.8	2.5	12.9
38. Hops, acres	(No report)	30	....	....	.006
39. Hops, pounds	222,065	10,928	—95.1	67.8	2.0
40. Hemp, tons	None	20	....	....	.004
41. Flax fiber, pounds	122,571	497	—99.6	37.4	.09
42. Broom corn, pounds	(No report)	68,433	....	....	12.6
43. Maple sugar, pounds	210,467	76,972	—63.4	64.2	14.2
44. Maple syrup, gallons	12,722	11,407	—10.3	3.9	2.1
45. Sorghum syrup, gallons	38,735	543,369	1,302.8	11.8	100.0
46. Sorghum sugar, pounds	(No report)	190	....	....	.035
47. Wine, gallons	1,750	(No report)	....	.53	....
48. Orchard products, value	$15,818	$121,648	669.0	$4.83	$22.39
49. Market-garden products, value	$115,234	$166,030	44.1	$35.17	$30.57
50. Forest products, value	$311,528	$1,796,260	476.6	$95.06	$330.68
IV. Live stock on farms:					
51. Horses	93,011	257,282	176.6	28.4	47.3
52. Mules and asses	2,350	9,019	283.8	.72	1.7
53. Milch cows	121,467	275,545	126.8	37.1	50.7
54. Working oxen	43,176	36,344	—15.8	13.2	6.7
55. Other cattle	145,736	347,161	138.2	44.5	63.9
56. Sheep	132,343	267,598†	102.2	40.4	49.3
57. Swine	148,473	381,415	156.9	45.3	70.2
58. Total live stock	686,556	1,574,364	129.3	209.5	289.8
V. Animal products:					
59. Wool, pounds	401,185	1,352,124§	237.0	122.4	248.9
60. Butter made on farms, pounds	9,522,010	19,161,385	101.2	2,905.8	3,527.5
61. Butter made in factories	(No report)	83,450	....	....	15.4
62. Total butter, pounds	9,522,010	19,245,835	102.2	2,905.7	3,543.1
63. Cheese made on farms, pounds	233,977	523,138	123.6	71.1	96.3
64. Cheese made in factories	37,500	462,191	1,132.5	11.5	85.1
65. Total cheese, pounds	271,477	985,329	263.0	82.8	181.4
66. Milk sold, gallons	208,130	1,504,407	622.8	63.5	276.9
67. Beeswax, pounds	3,963	6,552	65.3	1.2	1.2
68. Honey, pounds	92,606	234,054	152.7	28.3	43.1
69. Animals slaughtered or sold for slaughter, value	$3,076,650	(No report)	....	$938.89	....

*Includes wild and cultivated hay.
†Sheep exclusive of spring lambs.
§Spring clip of 1880.

Items	1870	1880	Percentage of increase or decrease	Per 100 of the country population	
				1870	1880
VI. Value of:					
70. Farms, including fences and buildings	$97,847,442	$193,724,260	98.0	$29,859.78	$35,663.98
71. Live stock	$20,118,841	$31,904,821	58.6	$6,139.60	$6,873.58
72. Implements and machinery	$6,721,120	$13,089,783	94.8	$2,051.06	$2,409.78
73. Wages paid	$4,459,201	(No report)	....	$1,360.80	....
74. Cost of building and repairing fences	(No report)	$1,316,895	....	....	$242.43
75. Cost of fertilizers purchased	(No report)	$93,250	....	....	$17.17
76. Farm products	$33,446,400	$49,468,951	47.9	$10,206.72	$9,107.07

Comparison of Currency and Gold Values

Figures in italics indicate results if values in 1870 are reduced 20% to allow for depreciation of currency at that date. (See Census 1910, Supp. for Minn., p. 365.)

Items*	1870	1880	Percentage of increase or decrease	Per 100 of the country population	
				1870	1880
48a. Orchard products, value of	$15,818	$121,648	669.0	$4.83	$22.39
	$12,654		*861.3*	*$3.86*	
49a. Market-garden products, value of	$115,234	$166,030	44.1	$35.17	$30.57
	$92,187		*80.1*	*$28.14*	
50a. Forest products, value of	$311,528	$1,796,260	476.6	$95.06	$330.68
	$249,222		*620.8*	*$76.05*	
69a. Animals slaughtered or sold for slaughter, value of	$3,076,650	(No report)	....	$938.89	....
	$2,461,320			*$751.11*	
VI. Value of:					
70a. Farms, including fences and buildings	$97,847,442	$193,724,260	98.0	$29,859.78	$35,663.98
	$78,277,954		*147.5*	*$23,887.82*	
71a. Live stock	$20,118,841	$31,904,821	58.6	$6,139.60	$6,873.58
	$16,095,073		*98.2*	*$4,911.68*	
72a. Implements and machinery	$6,721,120	$13,089,783	94.8	$2,051.06	$2,409.78
	$5,376,895		*143.4*	*$1,640.85*	
73a. Wages paid	$4,459,201	(No report)	....	$1,360.80	....
	$3,567,361			*$1,088.64*	
76a. Farm products	$33,446,400	$49,468,951	47.9	$10,206.72	$9,107.07
	$26,757,120		*87.1*	*$8,165.38*	

*Numbers refer to position of the same items in the preceding table, (a) being added.

CHAPTER V

DEVELOPMENT OF DIVERSIFIED FARMING, 1880-1900

The rush to the cities, and the milling industry

The lessened profits in agriculture and the increased profit in milling tended at once to increase the urban population and to cause a rapid development of the milling industry. These causes, combined with discriminations in railroad rates in favor of competitive points, resulted in a startling increase in the population of large urban centers during the decade 1880-1890. As a result, the population of Minneapolis (including St. Anthony) rose from 5,821 in 1860 to 18,079 in 1870, 46,887 in 1880, 129,200 according to the state census of 1885, and 164,738 in 1890. During the fifteen years after 1870, following the introduction of the middlings purifier, there was thus more than a seven-fold increase in the population of Minneapolis. During the same period the population of the State had risen from 439,706 in 1870 to 1,117,798 in 1885, less than a three-fold increase (Table XI).

TABLE XI.—Development of Flour Milling in Minnesota, 1860-1890 (Based on the U. S. Census)

Items	Census of 1860	Census of 1870	Amount of Increase	Percentage of Increase
Number gristmills	81	216	135	167.0
Capital invested	$587,500	$2,900,915	$2,313,415	393.8
Cost of raw materials	$978,552	$6,090,006	$5,111,454	522.3
Hands employed	188	790	602	302.3
Value of product	$1,289,665	$7,534,575	$6,244,910	484.2

Items	Census of 1870	Census of 1880	Amount of Increase	Percentage of Increase
Number gristmills	216	436	220	101.8
Capital invested	$2,900,915	$10,510,362	$7,609,447	262.3
Cost of raw materials	$6,090,006	$37,155,429	$31,065,423	510.1
Hands employed	790	2,634	1,844	233.5
Value of product	$7,534,575	$41,519,004	$33,984,429	451.0

Items	Census of 1880	Census of 1890	Amount of Increase or Decrease	Percentage of Increase or Decrease
Number gristmills	436	307	—129	—29.6
Capital invested	$10,510,362	$19,518,743	$9,008,381	85.7
Cost of raw materials	$37,155,429	$52,383,867	$15,228,438	41.0
Hands employed	2,634	4,038	1,404	53.3
Value of product	$41,519,004	$60,158,088	$18,639,084	44.9

As shown by the preceding table, the milling industry in the meantime underwent a corresponding, if somewhat less rapid, expansion. In 1870 the value of flour mill products in the State had been 7.5 million dollars; in 1880 it was 41.5 millions, nearly a six-fold increase; in 1890 it was 60.2 millions (Fig. 99). In Minneapolis the output of flour, though fluctuating from year to year, on the whole kept pace with the increase of value for the State, which was in fact largely based upon the product of the Minneapolis mills. Beginning about 1877 there was also an important direct export movement to Europe, especially from Minneapolis. Exportation, however, did not keep pace with production, owing to the increasing proportion needed to supply the American market, and also because of competition from eastern milling centers.

Weather conditions, 1880-1890

The period 1880-1890 had on the whole more favorable weather conditions than either the preceding or the following decade (Figs. 69, 70, 100, 101). In 1881, however, the summer was the warmest since 1868, while the rainfall during that season remained below normal. Later in the fall, indeed, there were heavy rains but they came too late for any of the small grains.

Average crop yields, 1880-1890

The average yield of wheat per acre in 1880 was 13.3 bushels, which was better than in any year since 1877 (Figs. 71, 102), though far inferior to the yields of many earlier years. In 1881 it fell almost to the level of 1879, owing to the very dry summer. In 1882 again it averaged a trifle higher (Figs. 100, 102). Thereafter, for the remainder of the decade, the average yield of wheat per acre exceeded 13 bushels in every year but 1887, the best crops being in 1884 (16.23 bushels) and 1889 (15.3 bushels). During these years, nevertheless, the wheat fields were damaged by rust and insect attacks, especially in the older counties. One of the worst years was that of 1887, when 15 important counties were devasted by chinch-bugs, while a fresh incursion of locusts was in progress in Otter Tail County.[3]

Corn suffered from the backward spring and early frosts in 1882 and 1883, with the result that barley was largely fed to stock in lieu of corn the following winter. This experience shook the faith of many farmers in corn as a reliable crop and for a time checked the development of corn growing in the State[4] (Figs. 102, 104).

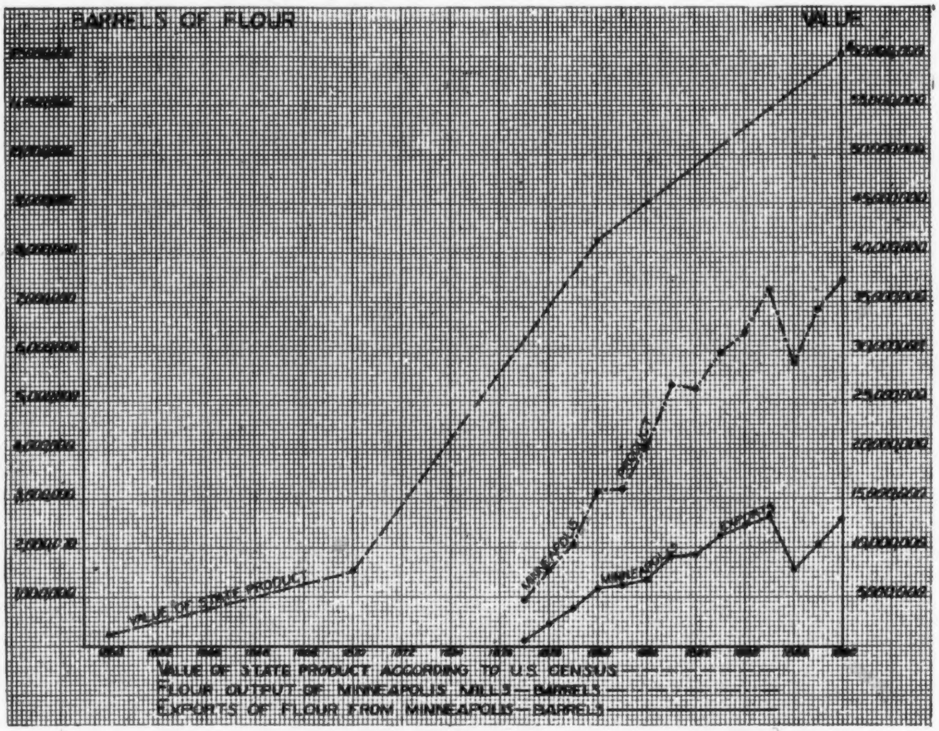

Figure 99. Development of flour milling, 1860-1890.[1]

Price fluctuations, 1880-1890

The abrupt drop in the price of wheat in 1878 and 1879, following the equally abrupt rise of 1877, was succeeded by a period of higher prices which culminated in 1882. This rise was in turn followed by a still greater decline which carried the average prices for the period 1884-1887, following the industrial depression of 1883-1884, to the lowest level since 1863 (Figs. 53, 75). Contemporary writers attributed this break in prices to the competition of Russian wheat in European markets.[5] Many of the farmers, however, attributed the fall to market manipulation and became bitter in their opposition to the system of state statistics, which they considered a device to aid the speculators. This opposition, which increased from year to year, diminished somewhat the reliability of the state statistics as to the acreage under tillage.[6]

After the poor crop of 1887 there was another period of higher prices, continuing during the remainder of the decade and reaching its culmination in 1891, shortly before the great depression and panic of 1893.

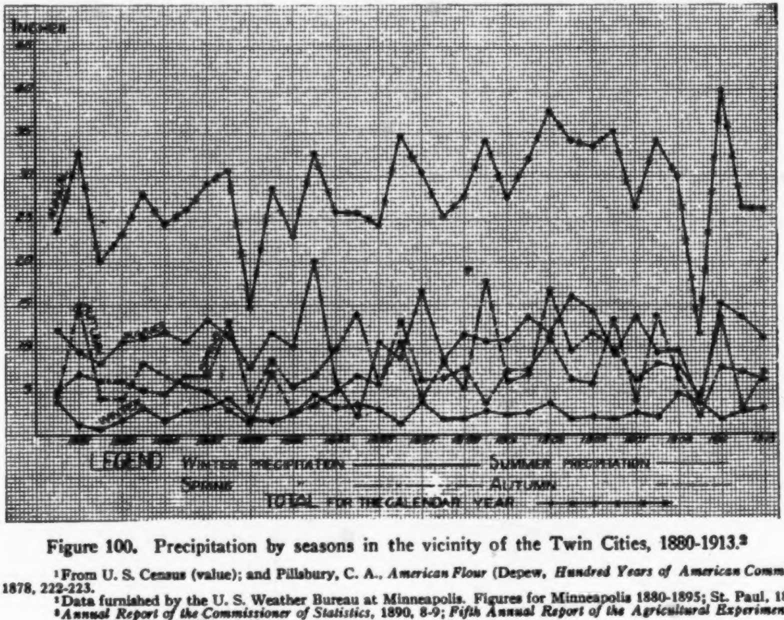

Figure 100. Precipitation by seasons in the vicinity of the Twin Cities, 1880-1913.[2]

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[1] From U. S. Census (value); and Pillsbury, C. A., *American Flour* (Depew, *Hundred Years of American Commerce*, I, 269-273); *Statistics of Minnesota*, 1871, 157; 1876, 204-206; 1878, 222-223.

[2] Data furnished by the U. S. Weather Bureau at Minneapolis. Figures for Minneapolis 1880-1895; St. Paul, 1896-1904; Minneapolis, 1905-1913.

[3] *Annual Report of the Commissioner of Statistics*, 1890, 8-9; *Fifth Annual Report of the Agricultural Experiment Station*, 96-99.

[4] *Ibid.*, 1893, 15-16; 1884, 16-17.

[5] *Ibid.*, 1884, 11; 1889, 7-8.

[6] *Ibid.*, 1884, 9-10.

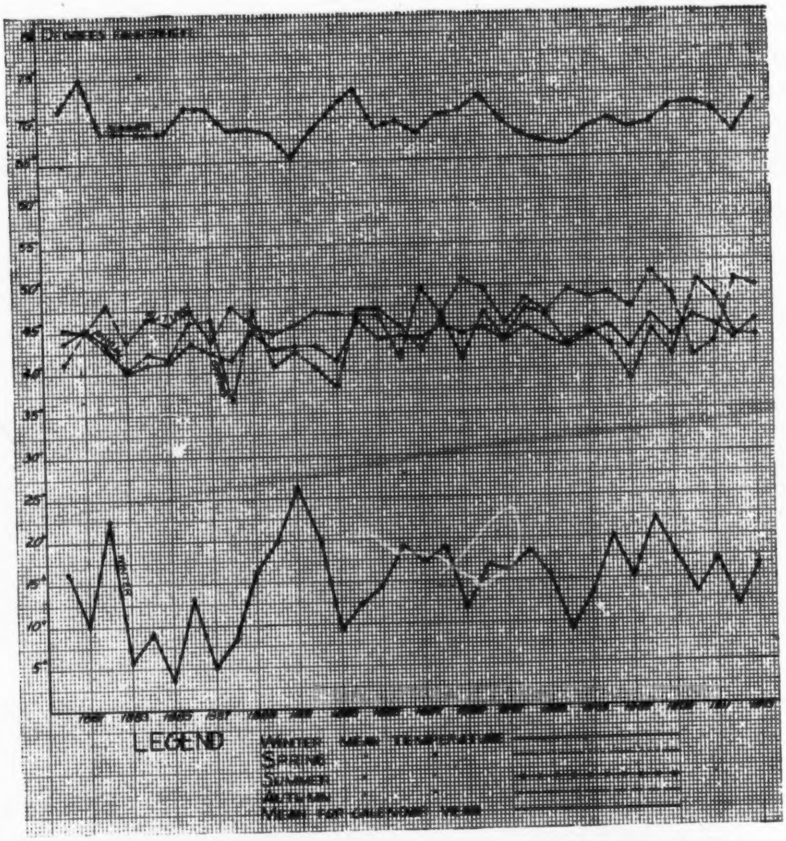

Figure 101. Temperature by seasons in vicinity of the Twin Cities, 1880-1913.[2]

Areas in crops, 1880-1890

The total land under tillage increased during the decade from 4.4 million acres in 1880 to 5.9 millions in 1889, a gain of 1.5 millions or 34.9 per cent. Most of the years showed an increase in acres tilled over the preceding year, the notable exceptions being 1882, which followed the crop failure of 1881, and 1887, which came after three years of abnormally low prices[7] (Figs. 102, 75).

The land under wheat, on the other hand, fell off over 225 thousand acres during the ten years.

The discouragingly small yields of 1880 and 1881 caused a loss of acreage the following years in spite of rising prices. This decline was largely localized in the older counties.[8] In 1883 more wheat was sown because of the slightly better yield and higher prices in 1882. There continued to be a larger acreage in wheat, with some fluctuations, from 1883 to 1887 during the period of low prices, owing to the relatively good yields; but the poor crop of 1887, coinciding with the bottom price reached in that year, again reduced the acreage planted to wheat during the remaining years of the decade.

A stationary or falling acreage devoted to wheat, while the tilled area was increasing 34.9 per cent, of course meant a decline in the proportion of tilled land occupied by that crop.

From 68.98 per cent in 1878, the highest point ever reached, the percentage of land in wheat declined to 66.59 in 1880, 53.35 in 1882, and (after the slight rally in 1883-84 previously mentioned) to 45.89 per cent in 1889.[9] This was a smaller proportion than at any time during the preceding thirty years. Most of the land lost by wheat went to the other cereals, chiefly oats, corn, and barley. The percentage of tilled land in cereals nevertheless did decline from 94.47 in 1879 to 86.27 in 1889—a loss of 8.20 per cent. Nearly all of this (7.15 per cent) was planted to flaxseed and cultivated hay. Potatoes had sold so low, prior to about 1880, as hardly to pay the cost of digging and hauling to market, to say nothing of cultivation. About that time, however, the supply became inadequate for the growing city population and prices consequently advanced, though still subject to great fluctuations. As a result, potatoes doubled their acreage from 1880 to 1889, which meant an increase in percentage of

[7] *Ibid.*, 1889, 18.

[8] *Ibid.*, 1883, 14.

[9] *Annual Report Commissioner of Statistics*, 1890, 9. The census of 1890 gives no totals for all tilled land. However, by footing the acres assigned to different crops in the census and also adding in the acreage assigned to certain minor crops in the state statistics, for which the census gives no acreage, a base is obtained from which a calculation of percentage relations is possible. Such a calculation gives 46.89 as the percentage of tilled land in wheat at the census of 1890. In view of the many chances of error in a composite problem, such a close approximation of the result to the figure given in the state statistics is reassuring as to the substantial accuracy of both the state and the census figures. It is quite possible, too, that the larger percentage of land in wheat shown by the census was due to the fact that, being taken as of June 1, 1890, the crops reported were necessarily those of the 1889 crop season, while the acreages were likely in many cases to be those of the 1890 season; and in that year, as indicated by the state statistics, there was again an increase in the percentage of land sown to wheat.

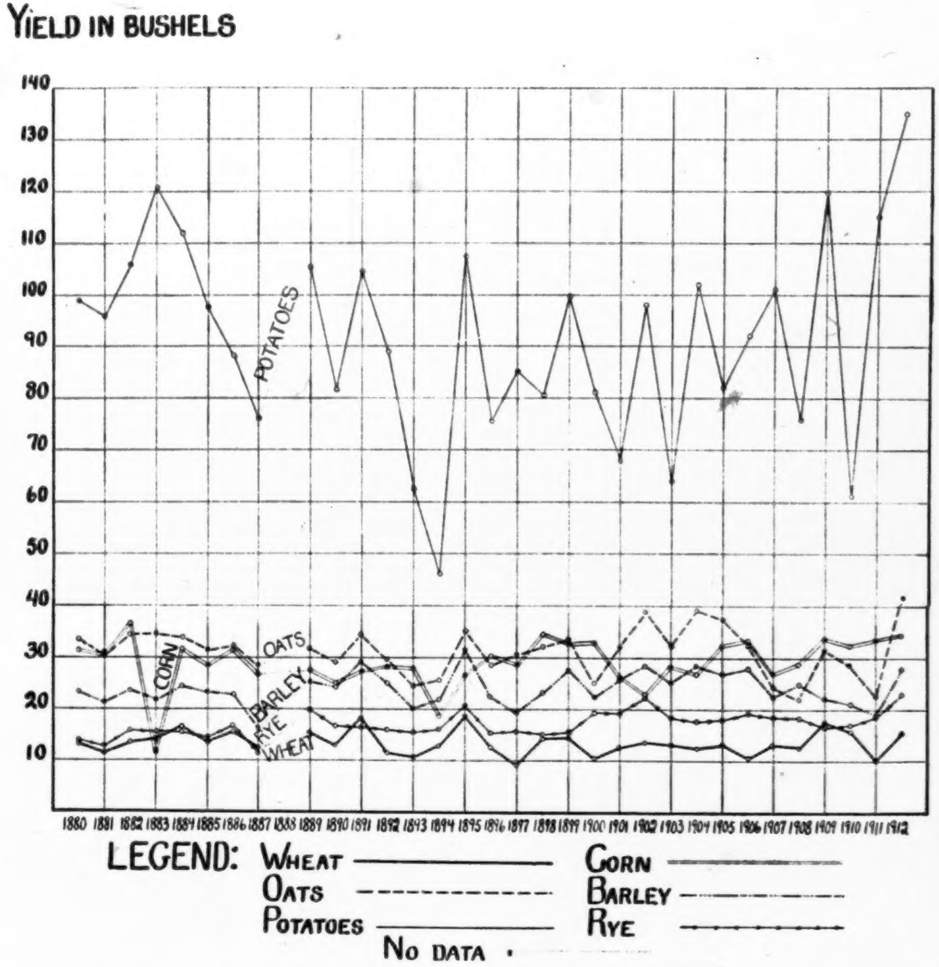

Figure 102. Average crop yields, in bushels, 1880-1912.[10]

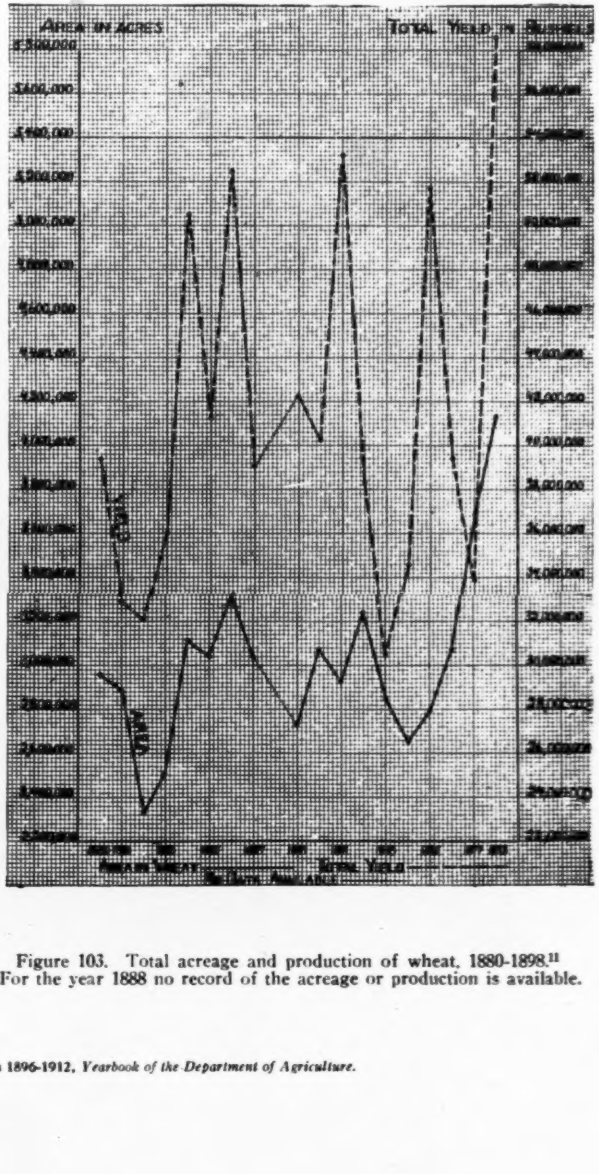

Figure 103. Total acreage and production of wheat, 1880-1898.[11] For the year 1888 no record of the acreage or production is available.

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[10] Data for years 1880-89, from *Annual Report of the Commissioner of Statistics*, 1889, 19; for years 1890-95, *Ibid*, 1895 and 1896, 8; for years 1896-1912, *Yearbook of the Department of Agriculture*.
[11] *Ibid*., 1894, 10; 1896, 6; 1898, 50.

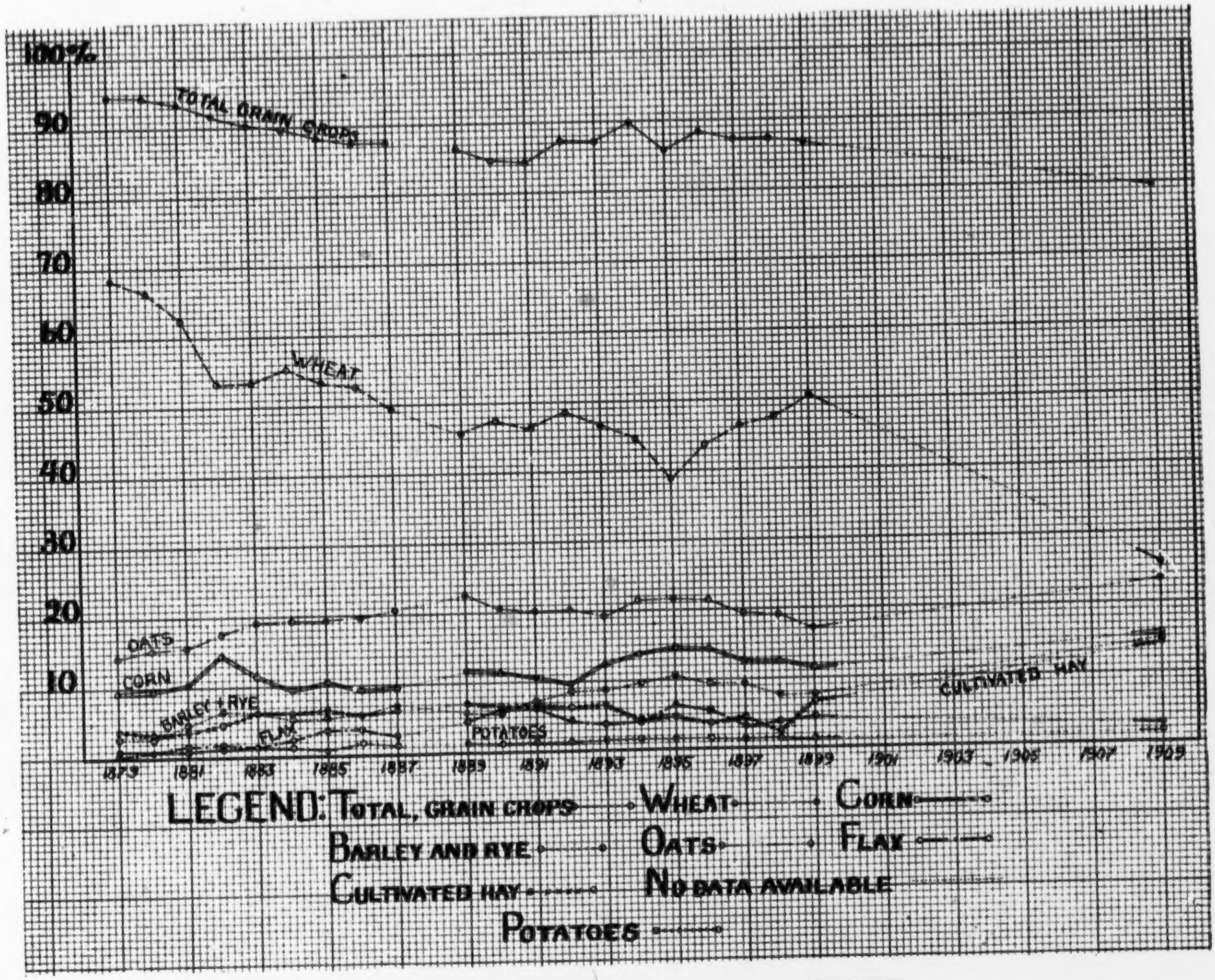

Figure 104. Percentage of tilled land in principal crops, 1880-1909.[12]

tilled land occupied by this crop from 0.86 to 1.29. More attention was also paid to good varieties for planting.[13] About 1886 a specialized potato district began to develop in the counties just north of St. Paul and Minneapolis, the direct stimulus being furnished by a produce firm which sent buyers through the country. In 1886 the shipments were only 150 cars; but by 1889 over 1,000 cars were shipped to New England alone, in competition with the Maine product. Starch factories were also established to use the small and unsalable potatoes.[14]

Animal industries, 1880-1890

Additional attention began to be paid to better breeds of stock during this period including, among others, blooded horses.[15] Sheep also increased somewhat, though less rapidly than other live stock, owing to the loss from dogs.[16] The principal gain, however, was in hogs, which increased from 381,415 to 853,715 (Table XXVII), and in cattle, which increased from 659,050 to 1,373,579. The percentage of cattle represented by dairy cows also rose from 41.8 in 1880 to 43.2 in 1890 (Table XXIV). This gain, both in cattle and in hogs, was the result of the development of the dairy industry, which not only supplied by-product cattle for the market but also furnished waste materials for feeding by-product hogs. This development began in earnest during 1881, according to the testimony of the state agent of the Federal Department of Agriculture, as a consequence of the conditions previously discussed which tended to reduce the area planted to wheat. So rapid was the change that by the close of 1882 the dairy industry had advanced from relatively small beginnings to a position of real importance. That year also marked the organization of a new association representing the butter and cheese factory interests,[17] as distinguished from dairy farming,

---

[12] Years 1879 to 1898 inclusive from *Annual Report Commissioner of Statistics*, 1891, 9; 1898, 52. Years 1899 and 1909 from census. For 1888 and 1900-1908 inclusive no report was made.

[13] *Ibid.*, 1889, 20; 1890, 8-9.

[14] *Ibid.*, 1889, 206-207.

[15] *Ibid.*, 1890, 131.

[16] *Ibid.*, 1883, 33-34.

[17] *Report of First Annual Meeting of Minnesota Butter and Cheese Association*, 1882.

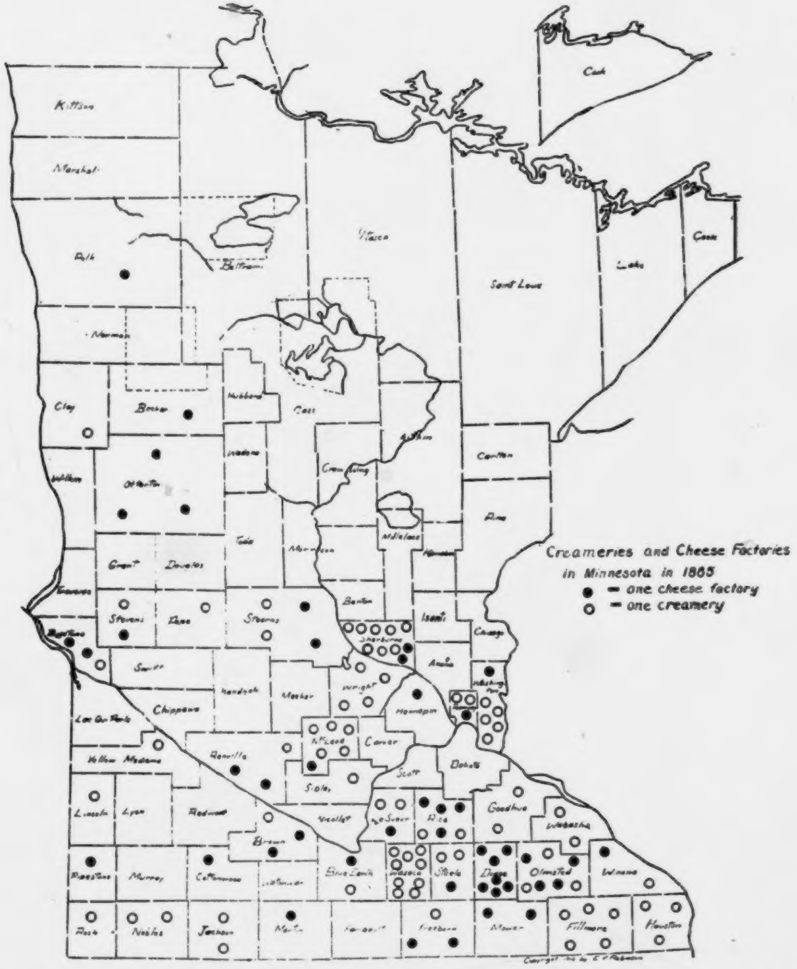
Creameries and Cheese Factories
in Minnesota in 1885
● = one cheese factory
○ = one creamery
Kittson
Marshall
Polk
Norman
Beltrami
Itasca
Saint Louis
Lake
Cook
Cass
Clay
Becker
Hubbard
Wadena
Crow Wing
Aitkin
Carlton
Pine
Wilkin
Otter Tail
Todd
Morrison
Mille Lacs
Kanabec
Grant
Douglas
Traverse
Stevens
Pope
Stearns
Benton
Sherburne
Isanti
Chisago
Big Stone
Swift
Kandiyohi
Meeker
Wright
Anoka
Washington
Ramsey
Hennepin
Lac Qui Parle
Chippewa
Renville
McLeod
Carver
Yellow Medicine
Sibley
Scott
Dakota
Lincoln
Lyon
Redwood
Brown
Nicollet
Le Sueur
Rice
Goodhue
Wabasha
Pipestone
Murray
Cottonwood
Watonwan
Blue Earth
Waseca
Steele
Dodge
Olmsted
Winona
Rock
Nobles
Jackson
Martin
Faribault
Freeborn
Mower
Fillmore
Houston

Figure 105. Distribution of creameries and cheese factories in 1885.[18]

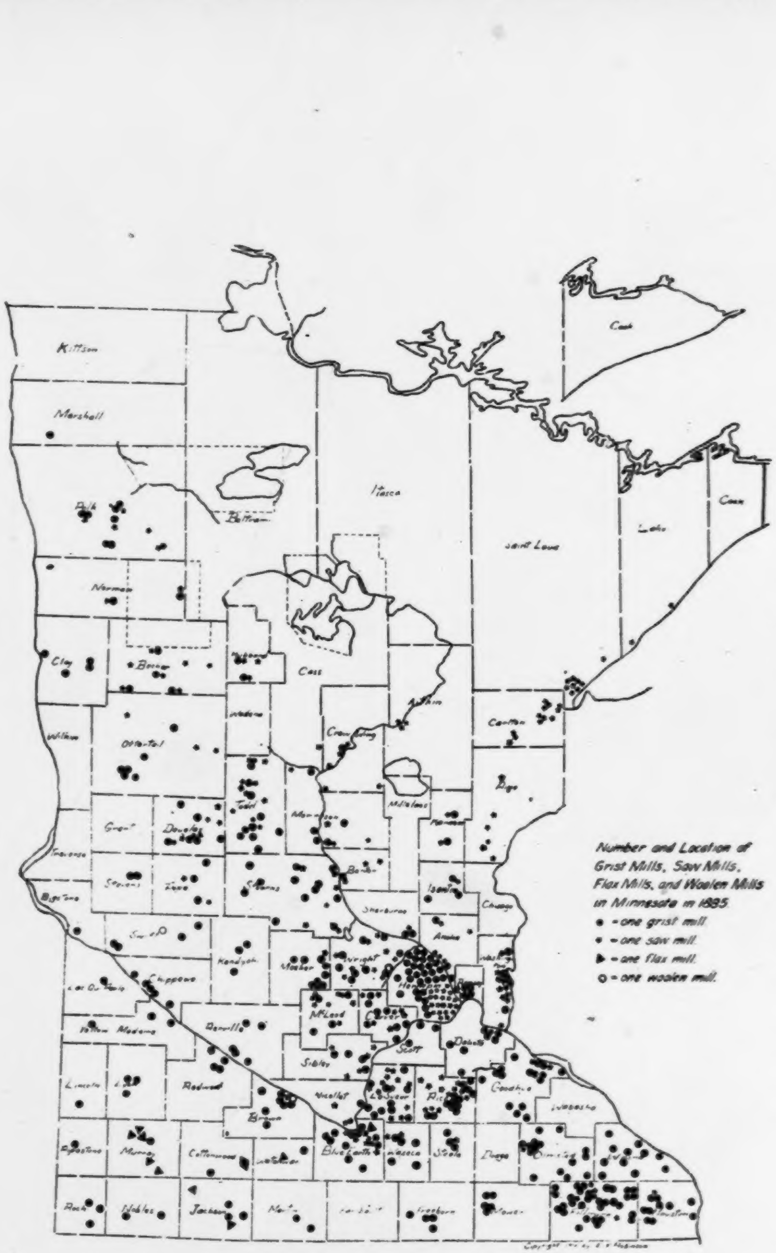
Number and Location of
Grist Mills, Saw Mills,
Flax Mills, and Woolen Mills
in Minnesota in 1885
• = one grist mill
• = one saw mill
▶ = one flax mill
○ = one woolen mill
Kittson
Marshall
Polk
Norman
Beltrami
Itasca
Saint Louis
Lake
Cook
Cass
Clay
Becker
Wadena
Crow Wing
Aitkin
Carlton
Pine
Wilkin
Otter Tail
Todd
Morrison
Mille Lacs
Kanabec
Grant
Douglas
Traverse
Stevens
Pope
Stearns
Benton
Sherburne
Isanti
Chisago
Big Stone
Swift
Kandiyohi
Meeker
Wright
Anoka
Hennepin
Lac Qui Parle
Chippewa
Renville
McLeod
Yellow Medicine
Sibley
Scott
Dakota
Lincoln
Lyon
Redwood
Brown
Nicollet
Le Sueur
Rice
Goodhue
Wabasha
Pipestone
Murray
Cottonwood
Watonwan
Blue Earth
Waseca
Steele
Dodge
Olmsted
Rock
Nobles
Jackson
Martin
Faribault
Freeborn
Mower
Houston

Figure 106. Number and location of gristmills, sawmills, flax mills, and woolen mills in 1885.[19]

---

[18] Exclusive of "estimates" added by Commissioner of Statistics. See *Ibid.*, 1885, 83-85.
[19] *Ibid.*, 1885, 313-320.

which was represented in the State Dairymen's Association. Shortly afterward, in 1885, the interest in progressive agriculture also led to the establishment of the School of Agriculture in connection with the University of Minnesota, and the creation of the office of State Dairy Commissioner. Again, in 1887, came the establishment of the Agricultural Experiment Station in connection with the Department of Agriculture at the University. All of these have been important factors in subsequent agricultural development.

The first creameries in the State dated from about 1876 (p. 81); at the census of 1880 only 83,450 pounds of butter out of 19,244,835 pounds were reported as the product of butter factories.[20] By 1883, on the other hand, there were already 63 creameries in the State and their improved methods, together with the better grade of dairy cattle, had wrought a revolution in market conditions. The best brands of Minnesota creamery butter then began to rank with the best in eastern markets, and won premiums at the New Orleans Exposition.[21] Cheese, on the other hand, losing the exclusive advantage of factory methods, declined in relative importance. In 1885 the state statistics showed 73 creameries against 46 cheese factories.[20] The distribution of these by counties (but not by towns) is shown in Fig. 105.

Comparing this map with the one of cheese factories in 1880 (Figs. 105, 79), it appears that while the creameries had in some instances taken the place of cheese factories, they were mostly a clear addition.

There was, however, such variation from year to year in the number of creameries and cheese factories shown in the state statistics as to suggest that the same establishment was sometimes operated as a cheese and again as a butter factory, especially as the cheese season extended only from May 1 to November 1.[22] Whenever the price of butter exceeded two and one-half times the price of cheese, there was a tendency to make more butter; and, conversely, whenever the price of cheese per pound exceeded 40 per cent of the price of butter,[23] there was a prospect of greater profit in cheese; limited, however, by the loss of the skim milk, and the fact that high-grade butter was easier to make than high-grade cheese.[22] Finally, the factory organization of the dairy industry was still in an experimental stage, many of the plants failing because too small for profitable operation; and fire losses became so great that some companies refused to write insurance upon such property.[22]

The development of the dairy industry was also for a time somewhat retarded by the competition of oleomargarine, and filled cheese, not only in the eastern markets but even within the State. In 1884 as much as four million pounds of oleomargarine were shipped into Minnesota;[24] but in a few years these shipments had been reduced fully two thirds by congressional and state legislation, the latter enforced by the State Dairy Commissioner.[25] Cheese suffered less from this competition and during the later eighties the number of cheese factories in the State increased about a third each year under the stimulus of an active demand and high prices.[26]

Distribution of the population according to the census of 1890

In 1890 the area of maximum density of population covered the section south of St. Cloud and east of New Ulm (Figs. 107-108). Within this area, however, the density varied considerably, a number of counties in the lower Minnesota Valley showing a greater density, excluding towns above 2,500 population, than the older southeastern counties. Evidently the center of greatest density had moved toward the northwest. Beyond the limits named two municipalities of 2,500 population were found in the agricultural belt extending northwest from St. Cloud, and four in the northeastern section. The latter, however, were supported by industries other than agriculture.

The country population, outside of incorporated places, had overspread the entire prairie and hardwood zones, although still sparse in the southwest and in the Red River Valley (Fig. 108). The coniferous zone, on the other hand, was still a wilderness, the few people in the northeastern counties, outside the villages, being engaged in trapping, fishing, lumbering, and mining (Fig. 108).

Another phenomenon also first appeared during this decade—an actual decrease of country population in the older counties. During the previous decade, indeed, several scattering northern counties had declined somewhat, largely by reason of the shifting of lumbering in certain districts; but from 1880 to 1890 a solid group of thirteen counties, in the oldest and richest farming section, lost country population (Fig. 109). The decline was especially marked in the row of counties from Fillmore to Dakota inclusive, which for many years had led in the production of wheat; though the greatest percentage of loss (18.9) was in Hennepin. Most of this section was severely ravaged by the chinch-bug during this period; and it showed the most marked decline in wheat acreage (Figs. 131, 83, 110). Evidently an agricultural revolution was here in progress which disposed young men, not yet established in the world, to seek their fortunes elsewhere. Moreover, farmers who could not or would not adapt themselves to the new conditions were either selling out or being forced out by the pressure of debts which they could not pay. In either case, they were migrating westward, either to the new parts of Minnesota or to the Dakotas, and were taking up fresh lands, there to continue the only type of agriculture which they knew how to practice. On the other hand, those who remained and adopted a more scientific method of farming soon found this change reflected in the value of their land. It should be added that the striking decline in country population in Hennepin County was due to the incorporation as villages of certain suburban districts and the addition of others to the city. The same thing was true in Ramsey. In the other eleven counties minor variations were due to this cause; but a careful scrutiny shows that the decrease was general, appearing in many of the townships, irrespective of incorporations and urban additions. No rate of change during the decade could be ascertained for Norman County, since it was formed in 1881, nor for Hubbard County, organized in 1883.

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[20] *Statistics of Minnesota*, 1877, 55; 1878, 39, 40; 1880, 38.

[21] *Ann. Rept. Comr. of Statistics*, 1883, 10, 30; 1884, 335.

[22] *Ibid.*, 1894, 84-86.

[23] The ratio, then accepted between the amount of milk necessary for the two purposes respectively in contrast to the earlier ratio of 2.34 (page 81). (*Ibid.*, 1894, 85).

[24] *First Biennial Report of Minnesota Dairy Commissioner*, 1887, 6-42. Census report 1890, IX, pt. 3, 519.

[25] *Second Report, Minnesota Dairy Commissioner*, 1889, 21.

[26] *Ibid.*, 1889, 37.

Distribution of crops according to the census of 1890

The maps of wheat acreage and production (Figs. 110, 111) make it evident that the period of specialized wheat farming was at an end in southeastern Minnesota. The center of density of wheat growing then lay in the counties on either side of the big bend of the Minnesota, although the crop had extended throughout the Red River Valley.

Oats were grown throughout the agricultural portion of the State, largely for local use (Figs. 112, 113). In the southeastern counties, however, from Washington to Houston and Mower, oats were evidently being substituted for wheat as a market crop, since this is the region showing a marked decline in wheat (Figs. 83, 110).

Barley was peculiar in that it appeared mainly in the three corners of the State. The principal area of production, however, was in the southeastern counties, from Goodhue south and east. Here barley, like oats, served as a market crop in lieu of wheat (Figs. 114, 115).

Rye was planted mainly in the counties abutting on the Mississippi and lower Minnesota, from Sherburne and Wright to Winona, overlapping barley in the southern part of its range. Rye, like barley, was a substitute for wheat, since it grows well on soils naturally poor (Figs. 116, 117).

From the distribution of corn (Figs. 118, 119) it is evident that this grain, like oats, was in a measure following wheat in its migration north and west. As yet, however, most of the corn crop was found south of Sherburne and east of Brown counties, especially on the lowlands. On the other hand, the regions of greater elevation, such as the Coteau des Prairies in the southwest, and the plateau in Mower County, produced distinctly less corn (Figs. 118, 119). Compared to the competing small grains, corn has this advantage, that it does not require labor at the same time as wheat. For this reason the corn belt overlapped many of the wheat counties, notably Blue Earth.

Potatoes, like oats, were grown throughout the agricultural zone for local use, roughly in proportion to population. In addition, potatoes had become a leading market crop in the districts adjacent to the large cities. The potato belt also extended north through Isanti and Chisago counties, where much of the soil was too light for wheat, and the proximity of markets favored a bulky crop such as potatoes (Figs. 120, 122).

Flaxseed was still grown, most extensively in the prairie region of the southwest, where it had greatly extended its acreage since 1880 (Figs. 94, 121, 123). The southeastern counties from Mower and Fillmore to Dakota had also gone into flax growing to a considerable extent, as another partial substitute for wheat. Owing, however, to the exhausting effect of flax upon the soil, it could not continue to be so used for any great length of time upon the same fields.

The hay crop, including both wild and tame hay, was distributed more nearly in proportion to the population than any other product (Fig. 124). Tame hay, on the other hand, was grown chiefly in the districts which were turning to dairying as their main resource. A glance at the map of acreage shows that these districts were south of Washington and Hennepin and east of Blue Earth counties (Figs. 125, 126).

Distribution of dairy industry in 1890

Dairy cows were distributed in the several counties in much the same ratio as the cut of hay. They were, however, relatively more numerous in the same districts as the largest acreage of tame hay. This concentration of the commercial dairy business is more apparent in the map of creameries and cheese factories, showing location by towns as well as counties (Figs. 126, 127).

Improved land and value of products in 1890

Improved land in farms formed from 60 to 80 per cent of the entire land area in all but six counties south of McLeod and east of Brown (Fig. 128); and in these six, which were all river counties with considerable areas of bluff and marsh except Freeborn, improved land amounted to from 40 to 60 per cent of the area. This southeastern district had made the most advance toward a full use of the land. The prairie counties farther west and northwest had, as a rule, from 20 to 40 per cent improved; only three had passed the 40 per cent line, while five still fell short of 20 per cent. East of the Mississippi only one county had 40 per cent, and two others as much as 20 per cent, of improved land.

The total value of farm products at the census of 1890 naturally corresponded in the main to the distribution of improved land. In Ramsey and Hennepin counties, however, the value was disproportionately high by reason of small areas devoted to market gardening and other intensive uses of the soil (Fig. 129).

Summary of development, 1880-1890

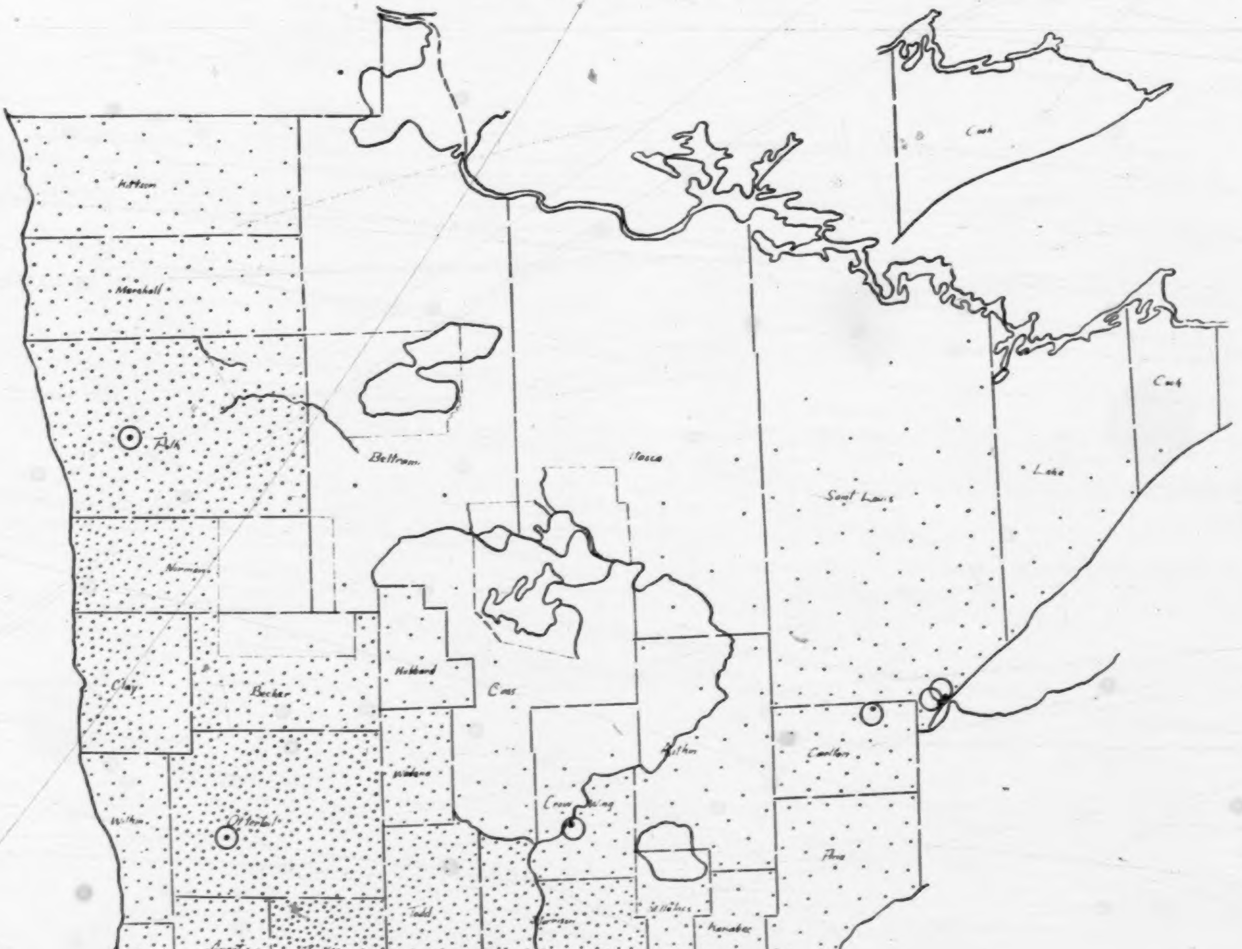
In order to bring out clearly the nature and extent of the changes in agriculture during the decade, Table 17 is presented at the end of this chapter showing the items reported by the census for 1880 and 1890, with a statement of the percentage of change and the relation to the country population.

During the ten years 1880-1890 the total population of the State rose from 780,773 to 1,310,283 or 67.8 per cent; the town population, from 237,580 to 602,169 or 153.5 per cent; the country population, on the other hand, from 543,193 to 709,114 or 30.4 per cent. In other words, for reasons previously indicated, town population increased more than five times as fast as country population.

The number of farms increased 26.9 per cent, the total area in farms 39.2 per cent, the improved land in farms 53.6 per cent; with the result that the average farm was greater by 14.6 acres and contained 16.8 acres more of improved land (Items 4-12). The tendency was thus toward a fuller use of the land, but not to the application of more labor to less land. On the contrary improved land in farms increased from 13.34 to 15.71 acres (or 17.8 per cent) per capita of the country population.

Wheat gained during the ten years only 10.8 per cent in acreage, but 51.2 per cent in yield. This difference was of course due to the better crop of 1889 compared to 1879 (Figs. 71, 102). Measured by country population, wheat culture actually declined, there being in 1890 only 4.8 acres in wheat per capita of such population, compared to 5.6 in 1880. All other grains, and in fact all other crops, gained rapidly by comparison with the country population, except several of little importance, such as hops, tobacco, hemp, and sorghum. Wheat, although still by far the leading crop, was thus in process of losing this preëminence (Items 13-63).

All kinds of live stock and poultry also increased faster than the country population, except mules and work oxen. Horses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Polk
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Saint Louis
Lake
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Norman
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Becker
Hubbard
Cass
Wadena
Aitkin
Carlton
Pine
Crow Wing
Wilkin
Otter Tail
Todd
Morrison
Mille Lacs
Kanabec
Grant
Douglas
Traverse
Stevens
Pope
Stearns
Benton
Sherburne
Isanti
Chisago
Big Stone
Swift
Kandiyohi
Meeker
Wright
Anoka
Lac Qui Parle
Chippewa
Renville
McLeod
Yellow Medicine
Lincoln
Lyon
Redwood
Brown
Nicollet
Pipestone
Murray
Cottonwood
Watonwan
Blue Earth
Waseca
Steele
Dodge
Rock
Nobles
Jackson
Martin
Faribault
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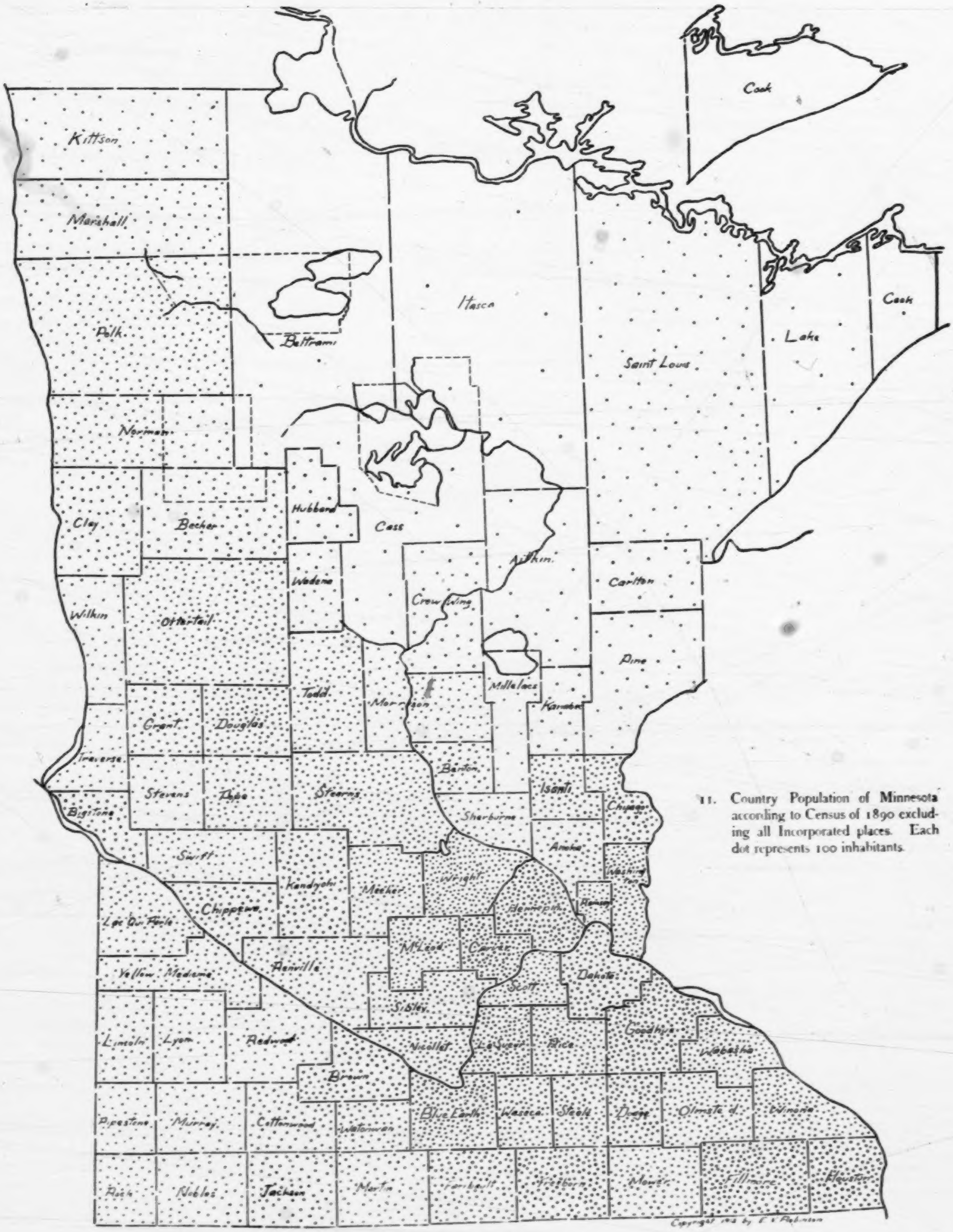
4. Rural Population of Minnesota according to Census of 1890 including Cities and Villages of less than 2500 Population.
Each dot represents 100 Inhabitants.
Each circle represents Incorporated Place of 2500 or more Inhabitants.

Figure 107. Population in 1890. (Based on Table XI)


Kittson
Marshall
Polk
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Itasca
Cook
Lake
Saint Louis
Norman
Clay
Becker
Hubbard
Cass
Aitkin
Carlton
Wilkin
Ottertail
Wadena
Crow Wing
Pine
Todd
Morrison
Mille Lacs
Kanabec
Grant
Douglas
Traverse
Stevens
Pope
Stearns
Benton
Isanti
Chisago
Big Stone
Sherburne
Anoka
Washington
Swift
Kandiyohi
Meeker
Wright
Hennepin
Ramsey
Lac Qui Parle
Chippewa
McLeod
Carver
Yellow Medicine
Renville
Scott
Dakota
Sibley
Goodhue
Lincoln
Lyon
Redwood
Nicollet
Le Sueur
Rice
Wabasha
Brown
Pipestone
Murray
Cottonwood
Watonwan
Blue Earth
Waseca
Steele
Dodge
Olmsted
Winona
Rock
Nobles
Jackson
Martin
Faribault
Freeborn
Mower
Fillmore
Houston
Copyright [illegible] by E. V. Robinson

11. Country Population of Minnesota according to Census of 1890 excluding all Incorporated places. Each dot represents 100 inhabitants.

Figure 108. Country population in 1890. (Based on Table XI)

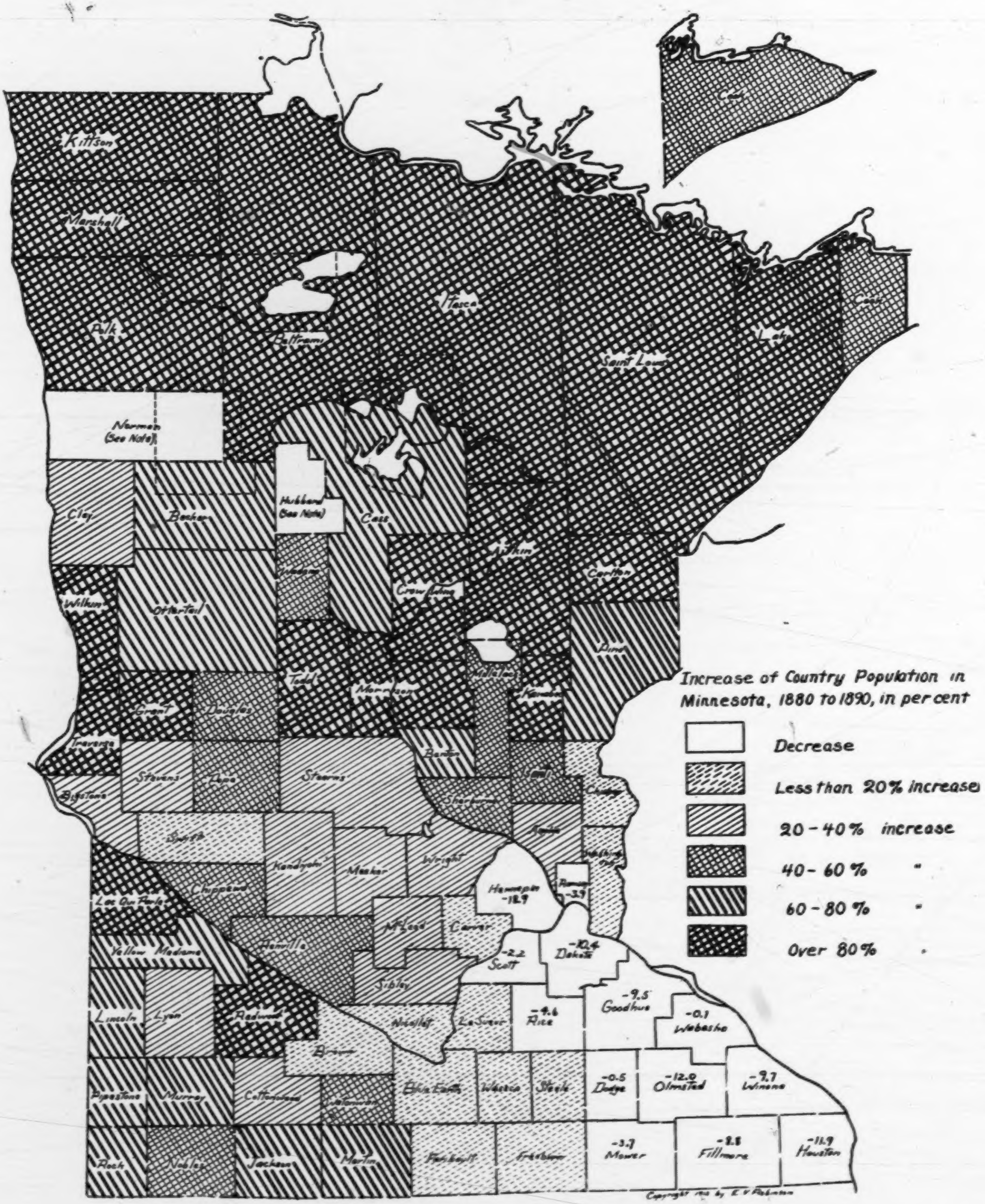
Increase of Country Population in Minnesota, 1880 to 1890, in per cent
Decrease
Less than 20% increase
20-40% increase
40-60% "
60-80% "
Over 80% "
Kittson
Marshall
Polk
Beltrami
Itasca
Saint Louis
Lake
Cook
Norman (See Note)
Clay
Becker
Hubbard (See Note)
Cass
Aitkin
Carlton
Wadena
Crow Wing
Wilkin
Ottertail
Pine
Todd
Morrison
Grant
Douglas
Traverse
Benton
Kanabec
Stevens
Pope
Stearns
Big Stone
Sherburne
Swift
Anoka
Kandiyohi
Meeker
Wright
Chippewa
Washington
Hennepin -12.9
Ramsey -3.9
Lac Qui Parle
McLeod
Carver
Renville
Yellow Medicine
-2.2 Scott
-10.4 Dakota
Sibley
Lincoln
Lyon
Redwood
-4.6 Rice
-9.5 Goodhue
-0.1 Wabasha
Nicollet
Le Sueur
Brown
Pipestone
Murray
Cottonwood
Watonwan
Blue Earth
Waseca
Steele
-0.5 Dodge
-12.0 Olmsted
-9.7 Winona
Rock
Nobles
Jackson
Martin
Faribault
Freeborn
-3.7 Mower
-8.8 Fillmore
-11.9 Houston

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Figure 109. Increase of country population, 1880 to 1890, in percentage. (Based on Table XI)

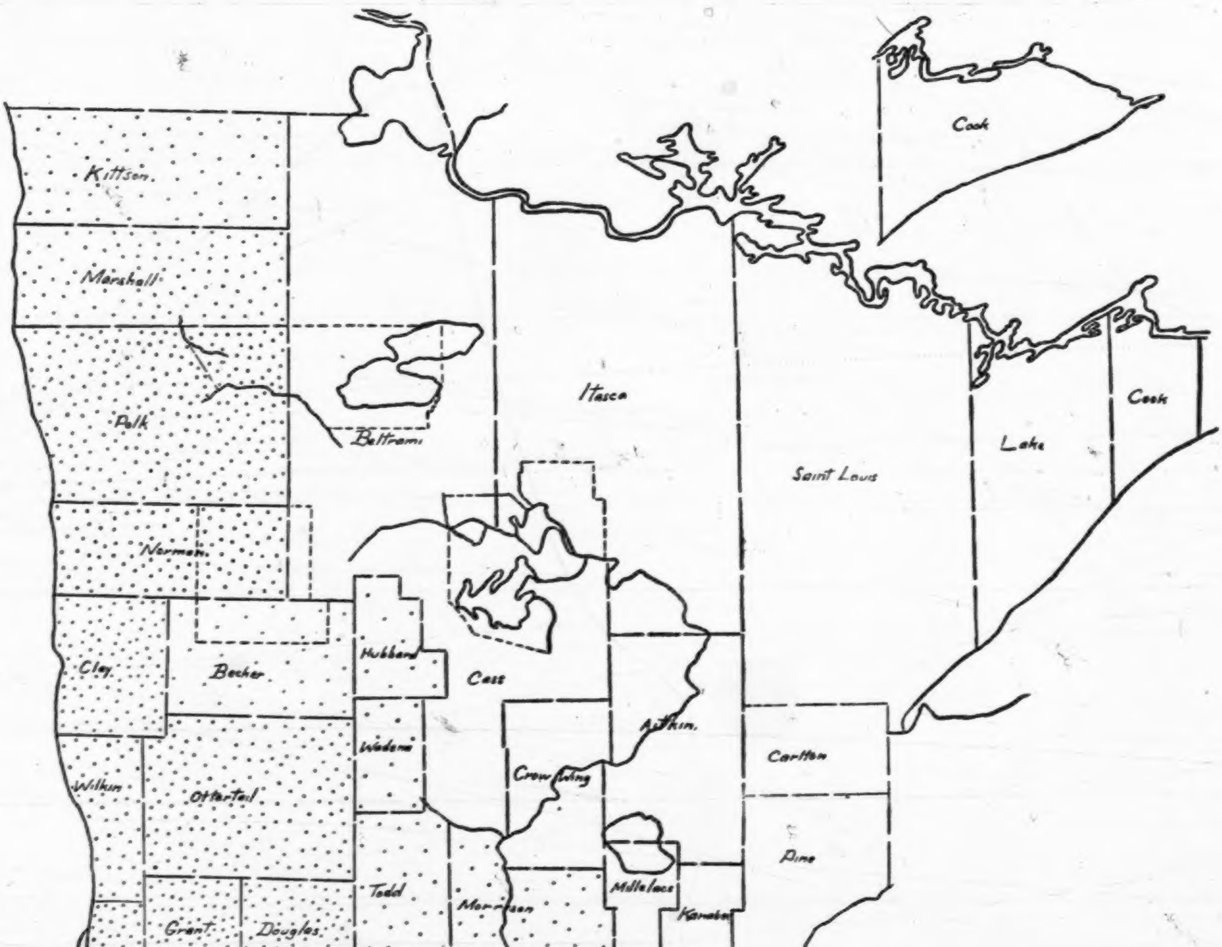
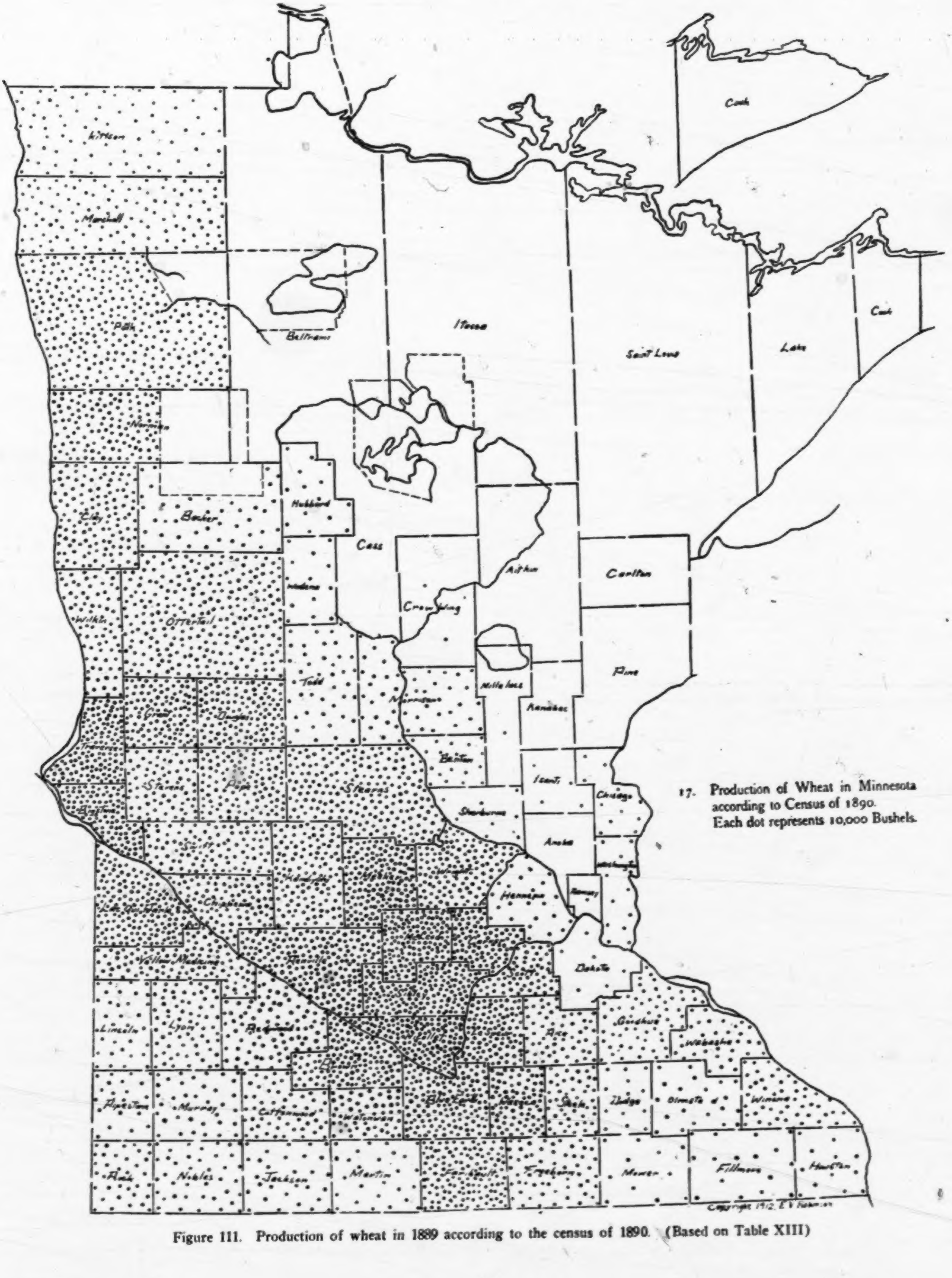
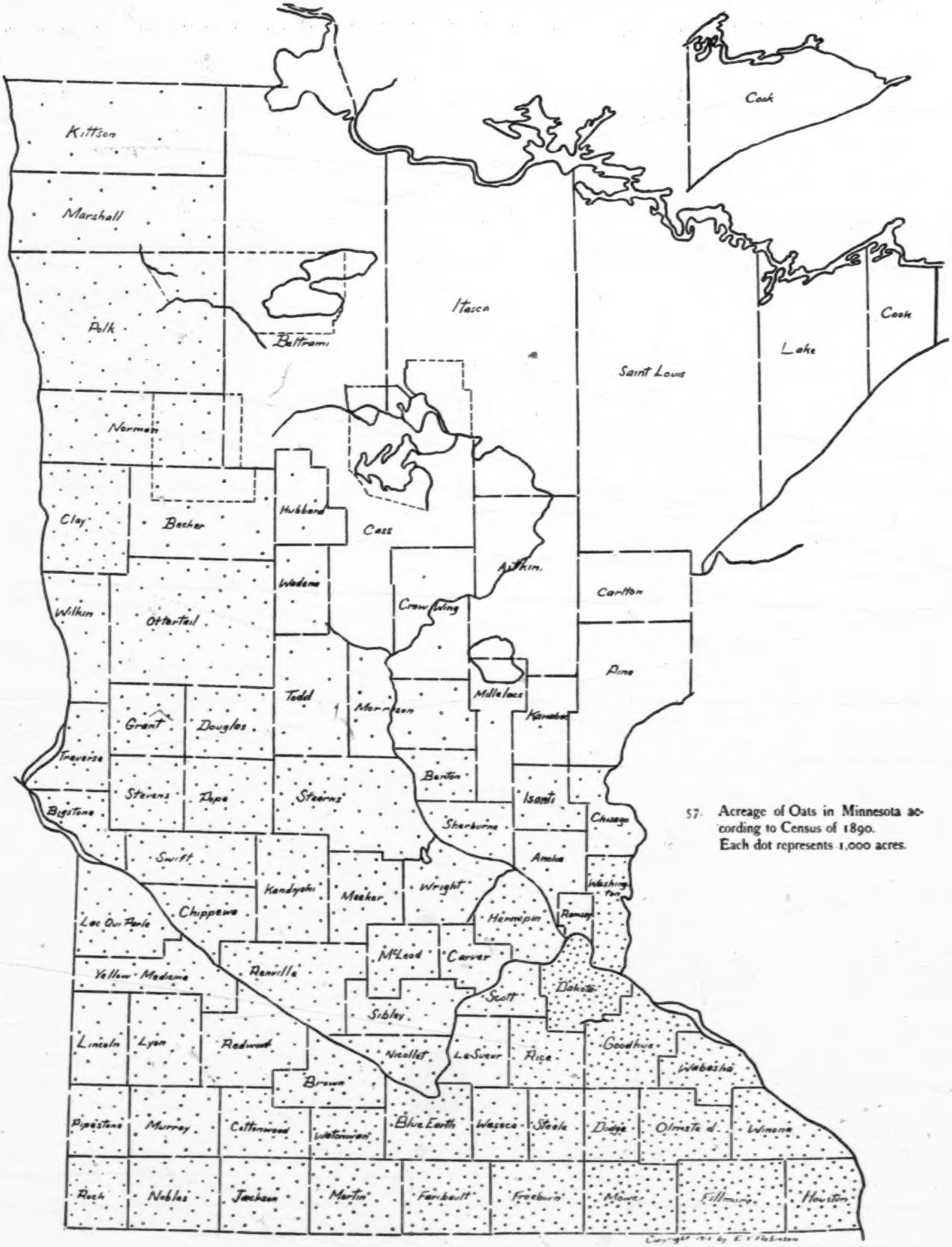

Kittson
Marshall
Polk
Beltrami
Itasca
Cook
Cook
Lake
Saint Louis
Norman
Clay
Becker
Hubbard
Cass
Wadena
Aitkin
Carlton
Crow Wing
Wilkin
Ottertail
Todd
Morrison
Mille Lacs
Kanabec
Pine
Grant
Douglas
Traverse
Stevens
Pope
Stearns
Benton
Isanti
Chisago
Big Stone
Sherburne
Anoka
Swift
Kandiyohi
Meeker
Wright
Hennepin
Ramsey
Washington
Lac Qui Parle
Chippewa
McLeod
Carver
Yellow Medicine
Renville
Scott
Dakota
Sibley
Lincoln
Lyon
Redwood
Nicollet
Le Sueur
Rice
Goodhue
Wabasha
Brown
Pipestone
Murray
Cottonwood
Watonwan
Blue Earth
Waseca
Steele
Dodge
Olmsted
Winona
Rock
Nobles
Jackson
Martin
Faribault
Freeborn
Mower
Fillmore
Houston
61. Acreage of Wheat in Minnesota according to Census of 1890.
Each dot represents 1,000 acres.
Copyright 1906 by E. V. Robinson

Figure 110. Acreage of wheat in 1889 according to census of 1890. (Based on Table XIII)


Kittson
Marshall
Polk
Beltrami
Itasca
Saint Louis
Lake
Cook
Cook
Norman
Clay
Becker
Hubbard
Cass
Aitkin
Carlton
Wadena
Crow Wing
Wilkin
Ottertail
Todd
Morrison
Mille Lacs
Kanabec
Pine
Grant
Douglas
Benton
Stevens
Pope
Stearns
Isanti
Chisago
Big Stone
Sherburne
Anoka
Swift
Kandiyohi
Meeker
Wright
Hennepin
Ramsey
Washington
Lac Qui Parle
Chippewa
Yellow Medicine
Renville
Dakota
Lincoln
Lyon
Redwood
Rice
Goodhue
Wabasha
Brown
Nicollet
Pipestone
Murray
Cottonwood
Watonwan
Blue Earth
Steele
Dodge
Olmsted
Winona
Rock
Nobles
Jackson
Martin
Faribault
Freeborn
Mower
Fillmore
Houston
Copyright 1912 E V Robinson

17. Production of Wheat in Minnesota according to Census of 1890.
Each dot represents 10,000 Bushels.

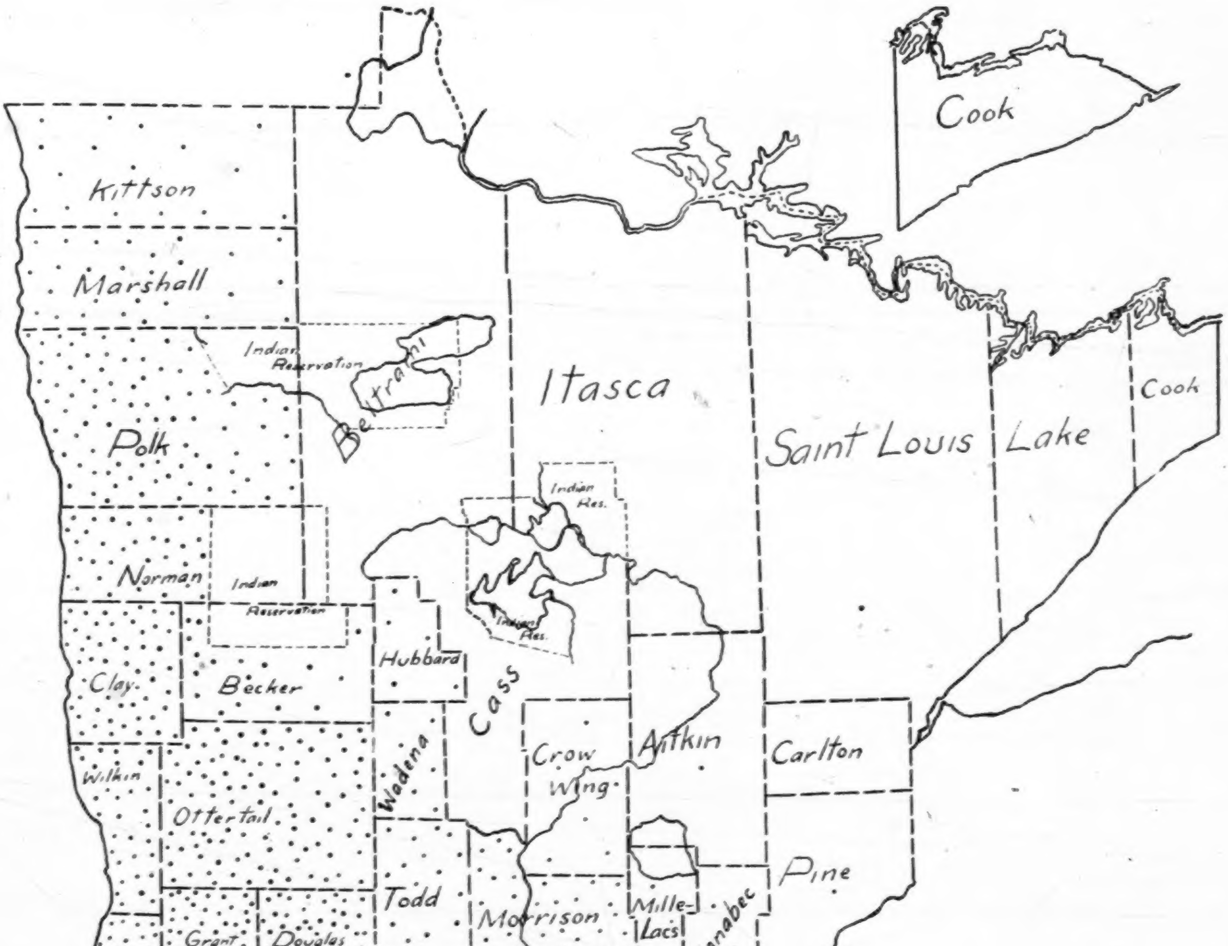
Figure 111. Production of wheat in 1889 according to the census of 1890. (Based on Table XIII)


Kittson
Cook
Marshall
Polk
Beltrami
Itasca
Cook
Lake
Saint Louis
Norman
Clay
Becker
Hubbard
Cass
Aitkin
Carlton
Wadena
Crow Wing
Wilkin
Ottertail
Pine
Todd
Morrison
Mille Lacs
Grant
Douglas
Kanabec
Traverse
Benton
Stevens
Pope
Stearns
Isanti
Chisago
Big Stone
Sherburne
Swift
Anoka
Washington
Kandiyohi
Meeker
Wright
Lac Qui Parle
Chippewa
Hennepin
Ramsey
McLeod
Carver
Yellow Medicine
Renville
Scott
Dakota
Sibley
Lincoln
Lyon
Redwood
Nicollet
Le Sueur
Rice
Goodhue
Wabasha
Brown
Pipestone
Murray
Cottonwood
Watonwan
Blue Earth
Waseca
Steele
Dodge
Olmsted
Winona
Rock
Nobles
Jackson
Martin
Faribault
Freeborn
Mower
Fillmore
Houston

57. Acreage of Oats in Minnesota according to Census of 1890.
Each dot represents 1,000 acres.

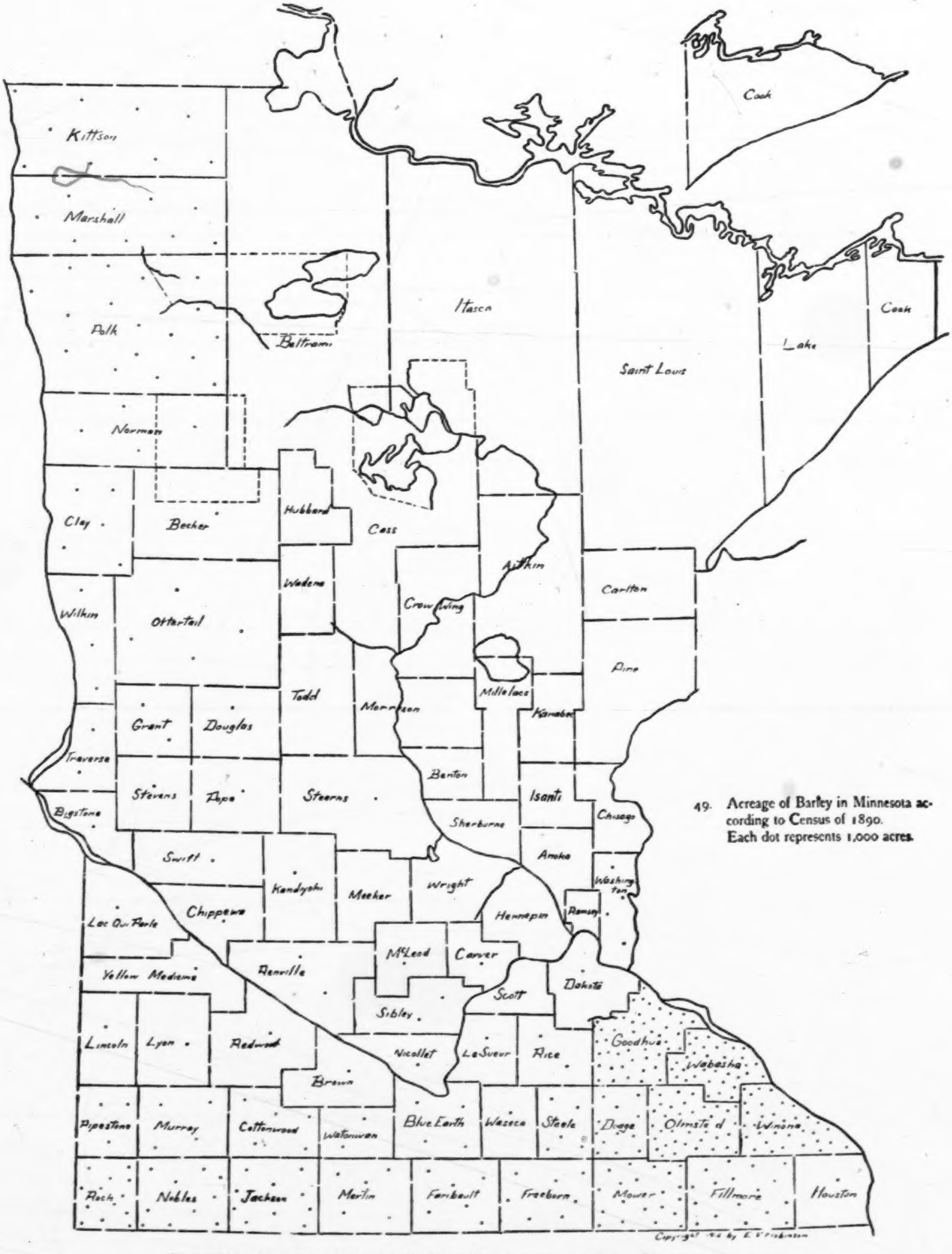
Copyright [illegible] by E. V. Robinson

Figure 112. Acreage of oats in 1889 according to census of 1890. (Based on Table XIV)


Cook
Kittson
Marshall
Indian Reservation
Beltrami
Itasca
Saint Louis
Lake
Cook
Polk
Indian Res.
Norman
Indian Reservation
Indian Res.
Hubbard
Clay
Becker
Cass
Wilkin
Wadena
Crow Wing
Aitkin
Carlton
Ottertail
Todd
Pine
Grant
Douglas
Morrison
Mille Lacs
Kanabec
Traverse
Benton
Isanti
Stevens
Pope
Stearns
Chisago
Bigstone
Sherburne
Swift
Anoka
Kandiyohi
Meeker
Wright
Washington
Lac Qui Parle
Chippewa
Hennepin
Ramsey
Renville
McLeod
Carver
Yellow Medicine
Scott
Dakota
Sibley
Lincoln
Lyon
Redwood
Nicollet
Le Sueur
Rice
Goodhue
Wabasha
Brown
Pipestone
Murray
Cottonwood
Watonwan
Blue Earth
Waseca
Steele
Dodge
Olmsted
Winona
Rock
Nobles
Jackson
Martin
Faribault
Freeborn
Mower
Fillmore
Houston

29. Production of Oats in Minnesota according to Census of 1890. Each dot represents 10,000 Bushels.

Figure 113. Production of oats in 1889 according to the census of 1890. (Based on Table XIV)


Kittson
Marshall
Polk
Beltrami
Itasca
Cook
Cook
Lake
Saint Louis
Norman
Clay
Becker
Hubbard
Cass
Wadena
Crow Wing
Aitkin
Carlton
Wilkin
Ottertail
Todd
Morrison
Mille lacs
Pine
Kanabec
Grant
Douglas
Traverse
Benton
Stevens
Pope
Stearns
Isanti
Chisago
Bigstone
Sherburne
Swift
Anoka
Kandiyohi
Meeker
Wright
Washington
Lac Qui Parle
Chippewa
Hennepin
Ramsey
McLeod
Carver
Yellow Medicine
Renville
Scott
Dakota
Sibley
Lincoln
Lyon
Redwood
Goodhue
Nicollet
LeSueur
Rice
Wabasha
Brown
Pipestone
Murray
Cottonwood
Watonwan
Blue Earth
Waseca
Steele
Dodge
Olmsted
Winona
Rock
Nobles
Jackson
Martin
Faribault
Freeborn
Mower
Fillmore
Houston
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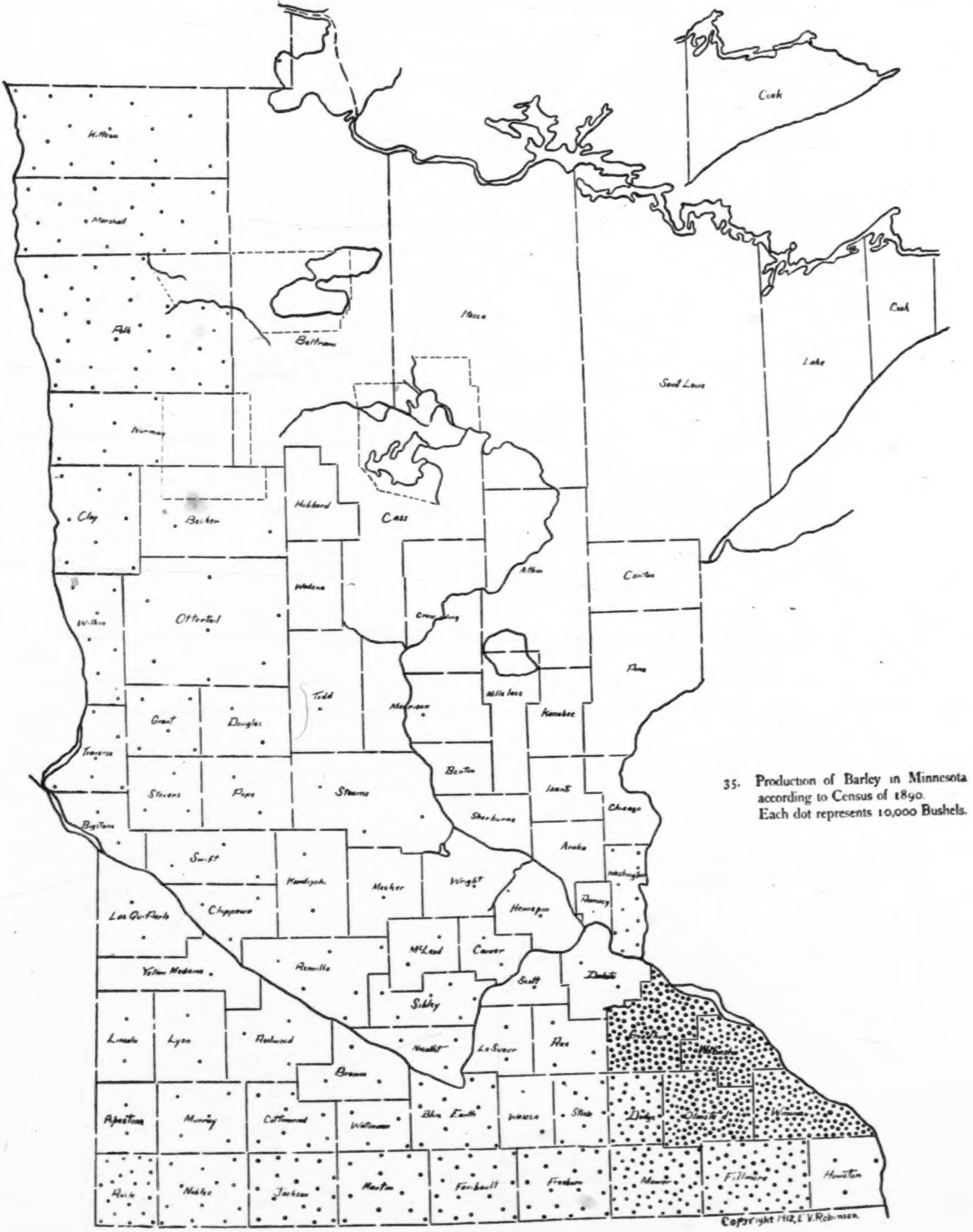
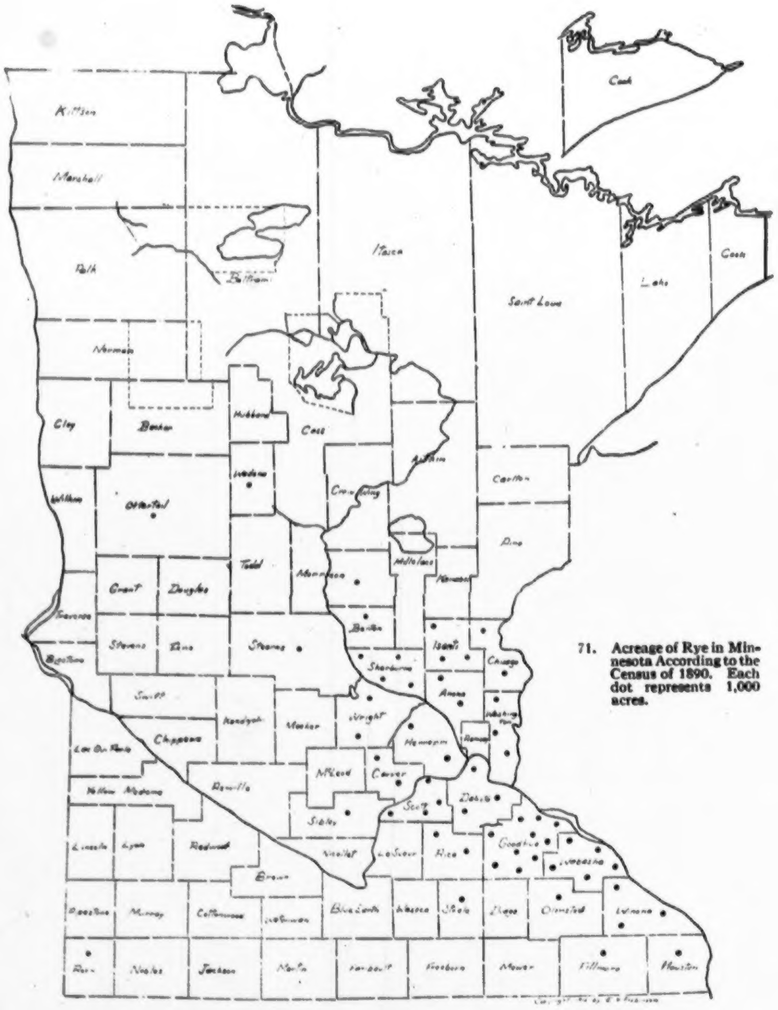
49. Acreage of Barley in Minnesota according to Census of 1890.
Each dot represents 1,000 acres.

Figure 114. Acreage of barley in 1889 according to census of 1890. (Based on Table XVI)


Kittson
Marshall
Polk
Beltrami
Itasca
Cook
Cook
Lake
Saint Louis
Norman
Clay
Becker
Hubbard
Cass
Aitkin
Carlton
Wadena
Crow Wing
Ottertail
Wilkin
Pine
Grant
Douglas
Todd
Morrison
Mille lacs
Kanabec
Traverse
Stevens
Pope
Stearns
Benton
Isanti
Chisago
Big Stone
Sherburne
Anoka
Swift
Kandiyohi
Meeker
Wright
Washington
Ramsey
Hennepin
Lac Qui Parle
Chippewa
McLeod
Carver
Renville
Yellow Medicine
Scott
Dakota
Sibley
Lincoln
Lyon
Redwood
Nicollet
Le Sueur
Rice
Goodhue
Wabasha
Brown
Pipestone
Murray
Cottonwood
Watonwan
Blue Earth
Waseca
Steele
Dodge
Olmsted
Winona
Rock
Nobles
Jackson
Martin
Faribault
Freeborn
Mower
Fillmore
Houston
Copyright 1912, E. V. Robinson

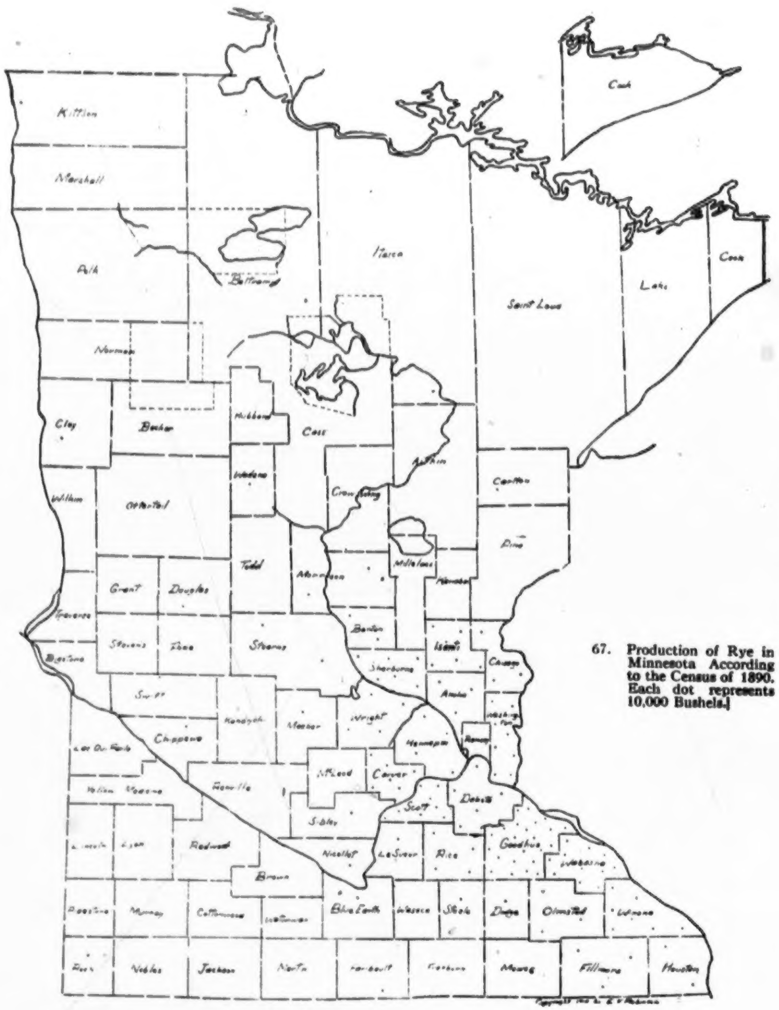
35. Production of Barley in Minnesota according to Census of 1890.
Each dot represents 10,000 Bushels.

Figure 115. Production of barley in 1889 according to census of 1890. (Based on Table XVI)


71. Acreage of Rye in Minnesota According to the Census of 1890. Each dot represents 1,000 acres.

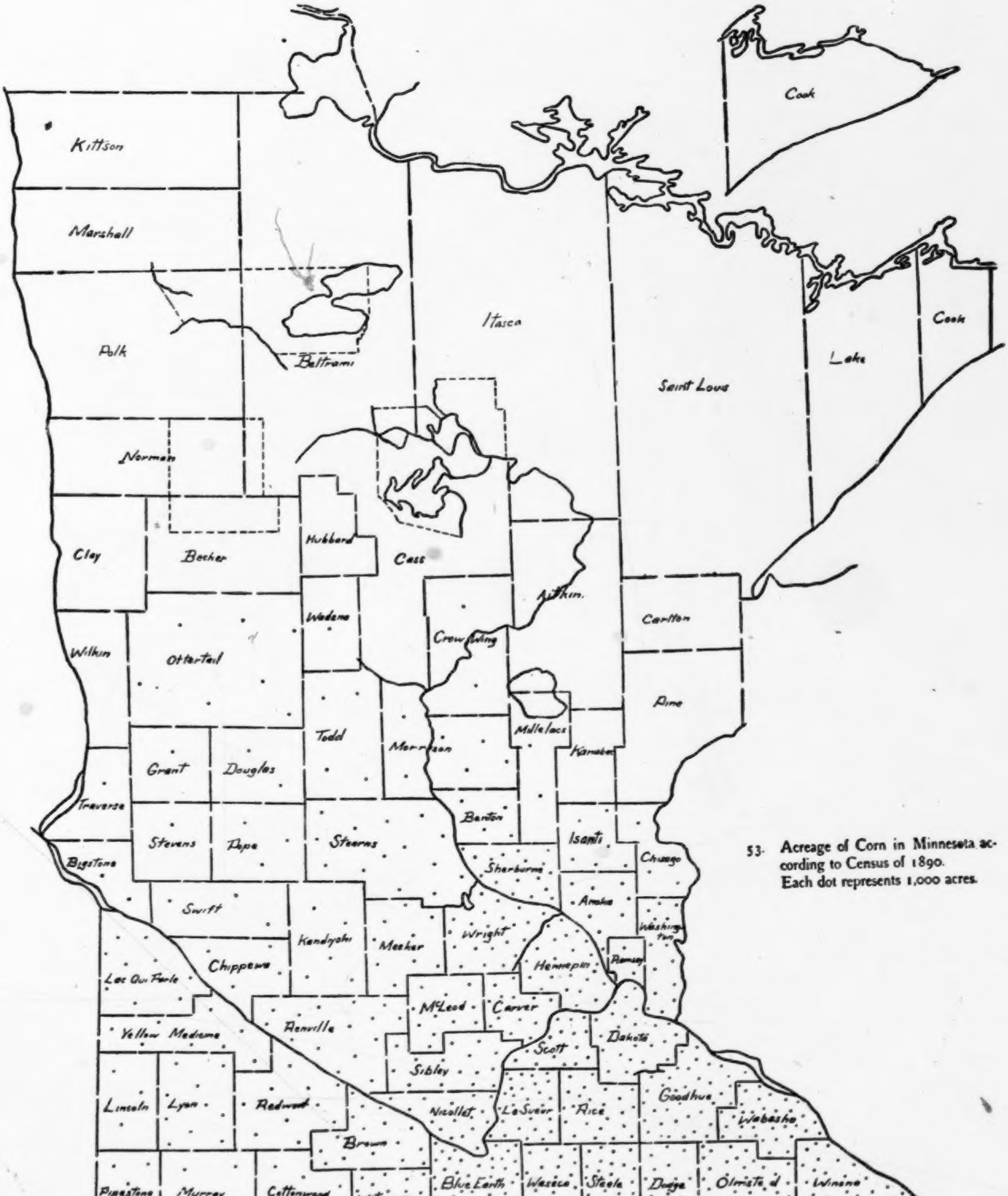
Kittson
Marshall
Polk
Norman
Clay
Becker
Wilkin
Otter Tail
Grant
Douglas
Traverse
Stevens
Pope
Big Stone
Swift
Lac Qui Parle
Chippewa
Kandiyohi
Yellow Medicine
Renville
Lincoln
Lyon
Redwood
Brown
Pipestone
Murray
Cottonwood
Watonwan
Rock
Nobles
Jackson
Martin
Faribault
Freeborn
Mower
Fillmore
Houston
Winona
Olmsted
Dodge
Steele
Waseca
Blue Earth
Nicollet
Le Sueur
Rice
Goodhue
Wabasha
Dakota
Scott
Sibley
McLeod
Carver
Hennepin
Ramsey
Washington
Meeker
Wright
Stearns
Sherburne
Anoka
Chisago
Isanti
Benton
Morrison
Mille Lacs
Kanabec
Pine
Carlton
Aitkin
Crow Wing
Todd
Wadena
Hubbard
Cass
Itasca
Beltrami
Saint Louis
Lake
Cook

Figure 116. Acreage of rye in 1889 according to census of 1890. (Based on Table XVII)


67. Production of Rye in Minnesota According to the Census of 1890. Each dot represents 10,000 Bushels.]

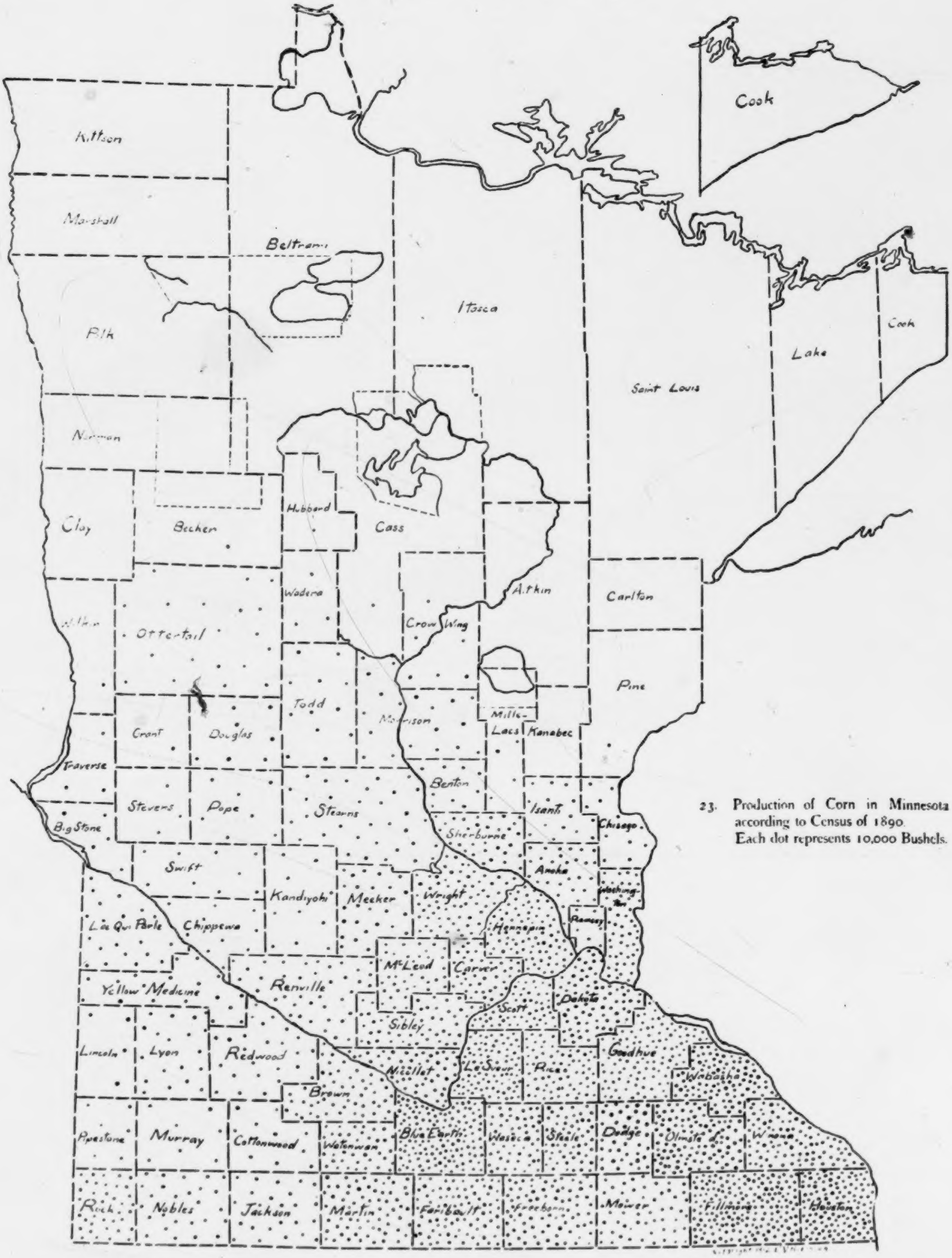
Kittson
Marshall
Polk
Norman
Clay
Becker
Wilkin
Otter Tail
Grant
Douglas
Traverse
Stevens
Pope
Big Stone
Swift
Lac Qui Parle
Chippewa
Kandiyohi
Yellow Medicine
Renville
Lincoln
Lyon
Redwood
Brown
Pipestone
Murray
Cottonwood
Watonwan
Rock
Nobles
Jackson
Martin
Faribault
Freeborn
Mower
Fillmore
Houston
Winona
Olmsted
Dodge
Steele
Waseca
Blue Earth
Nicollet
Le Sueur
Rice
Goodhue
Wabasha
Dakota
Scott
Sibley
McLeod
Carver
Hennepin
Ramsey
Washington
Meeker
Wright
Stearns
Sherburne
Anoka
Chisago
Isanti
Benton
Morrison
Mille Lacs
Kanabec
Pine
Carlton
Aitkin
Crow Wing
Todd
Wadena
Hubbard
Cass
Itasca
Beltrami
Saint Louis
Lake
Cook

Figure 117. Production of rye in 1889 according to census of 1890. (Based on Table XVII)


Kittson
Marshall
Polk
Beltrami
Itasca
Cook
Lake
Cook
Saint Louis
Norman
Clay
Becker
Hubbard
Cass
Aitkin
Carlton
Wadena
Crow Wing
Wilkin
Ottertail
Todd
Morrison
Mille Lacs
Kanabec
Pine
Grant
Douglas
Traverse
Benton
Stevens
Pope
Stearns
Isanti
Chisago
Big Stone
Sherburne
Anoka
Swift
Kandiyohi
Meeker
Wright
Washington
Hennepin
Ramsey
Lac Qui Parle
Chippewa
McLeod
Carver
Renville
Yellow Medicine
Scott
Dakota
Sibley
Goodhue
Lincoln
Lyon
Redwood
Nicollet
Le Sueur
Rice
Wabasha
Brown
Pipestone
Murray
Cottonwood
Watonwan
Blue Earth
Waseca
Steele
Dodge
Olmsted
Winona
Rock
Nobles
Jackson
Martin
Faribault
Freeborn
Mower
Fillmore
Houston

53. Acreage of Corn in Minnesota according to Census of 1890.
Each dot represents 1,000 acres.

Figure 118. Acreage of corn in 1889 according to the census of 1890. (Based on Table XV)


Cook
Kittson
Marshall
Beltrami
Itasca
Polk
Saint Louis
Lake
Cook
Norman
Clay
Becker
Hubbard
Cass
Wadena
Aitkin
Carlton
Crow Wing
Wilkin
Ottertail
Todd
Morrison
Mille Lacs
Kanabec
Pine
Grant
Douglas
Traverse
Stevens
Pope
Stearns
Benton
Isanti
Chisago
Big Stone
Sherburne
Anoka
Swift
Kandiyohi
Meeker
Wright
Washington
Hennepin
Ramsey
Lac Qui Parle
Chippewa
McLeod
Carver
Yellow Medicine
Renville
Scott
Dakota
Sibley
Lincoln
Lyon
Redwood
Nicollet
Le Sueur
Rice
Goodhue
Wabasha
Brown
Pipestone
Murray
Cottonwood
Watonwan
Blue Earth
Waseca
Steele
Dodge
Olmsted
Winona
Rock
Nobles
Jackson
Martin
Faribault
Freeborn
Mower
Fillmore
Houston

23. Production of Corn in Minnesota according to Census of 1890. Each dot represents 10,000 Bushels.

Figure 119. Production of corn in 1889 according to the census of 1890. (Based on Table XV)

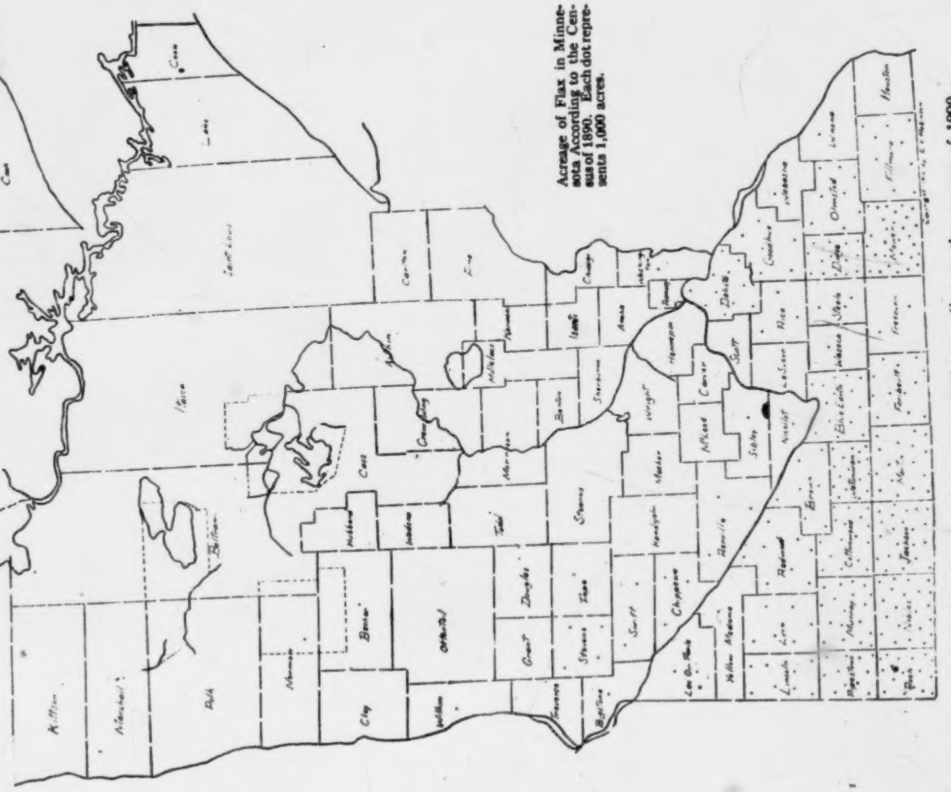

Acreage of Flax in Minnesota According to the Census of 1890. Each dot represents 1,000 acres.
Kittson
Marshall
Polk
Norman
Clay
Becker
Otter Tail
Wilkin
Grant
Douglas
Stevens
Pope
Swift
Chippewa
Kandiyohi
Meeker
Wright
Stearns
Todd
Morrison
Benton
Sherburne
Anoka
Isanti
Chisago
Washington
Ramsey
Hennepin
Carver
Scott
Dakota
Goodhue
Wabasha
Winona
Houston
Fillmore
Mower
Olmsted
Dodge
Steele
Rice
Le Sueur
Waseca
Freeborn
Faribault
Blue Earth
Nicollet
Sibley
McLeod
Renville
Redwood
Brown
Watonwan
Martin
Jackson
Cottonwood
Nobles
Murray
Lyon
Lincoln
Pipestone
Rock
Yellow Medicine
Lac Qui Parle
Big Stone
Traverse
Cass
Crow Wing
Aitkin
Pine
Carlton
Kanabec
Mille Lacs
Hubbard
Wadena
Itasca
Saint Louis
Lake
Cook
Beltrami

Figure 121. Acreage of flax in 1889 according to the census of 1890. (Based on Table XIX)

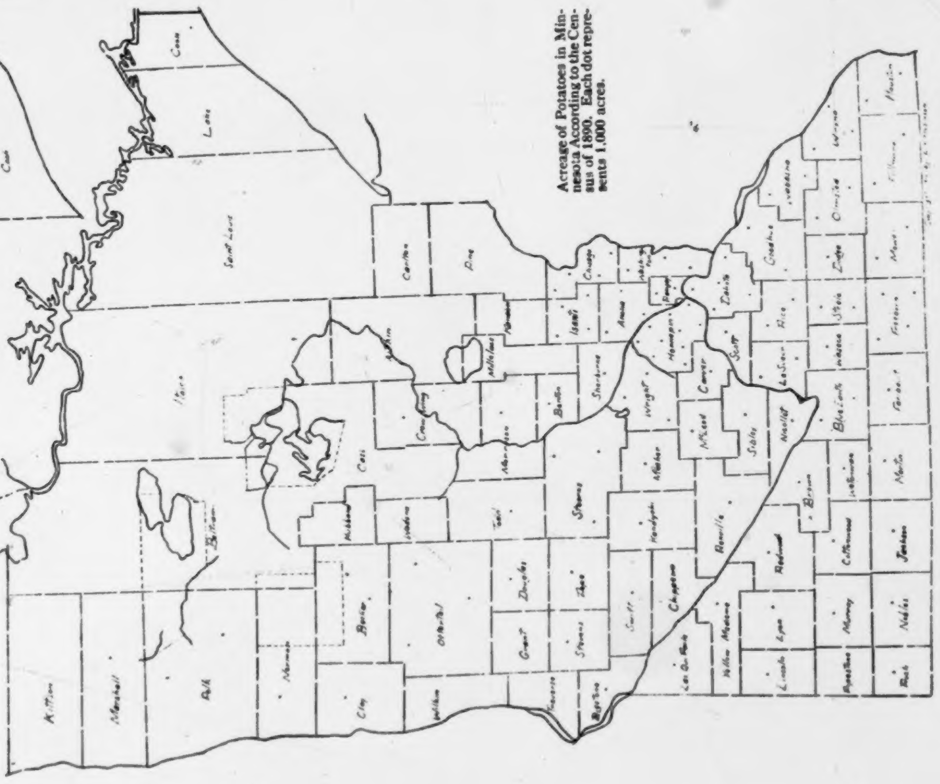
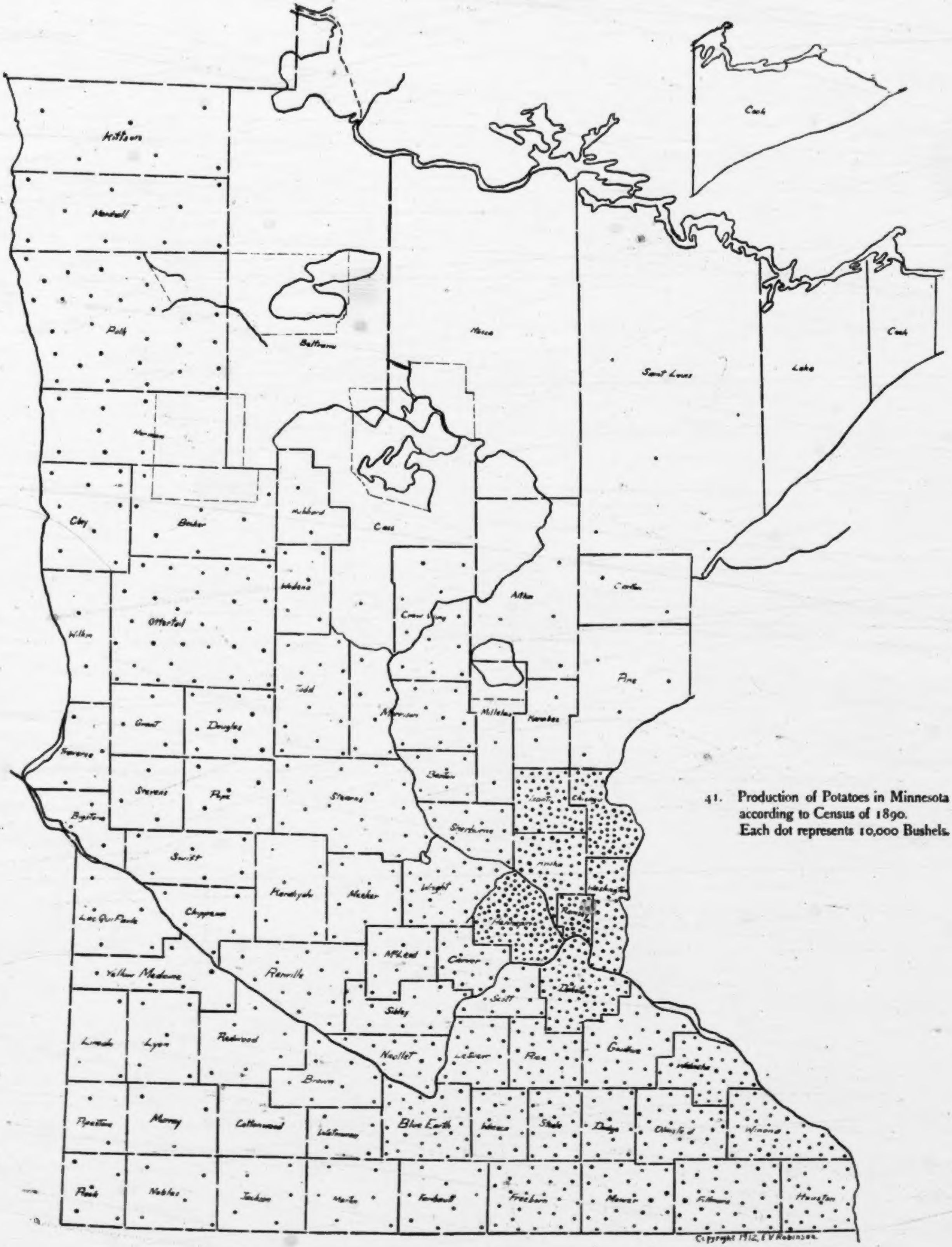

Acreage of Potatoes in Minnesota According to the Census of 1890. Each dot represents 1,000 acres.
Kittson
Marshall
Polk
Norman
Clay
Becker
Otter Tail
Wilkin
Grant
Douglas
Stevens
Pope
Swift
Chippewa
Kandiyohi
Meeker
Wright
Stearns
Todd
Morrison
Benton
Sherburne
Anoka
Isanti
Chisago
Washington
Ramsey
Hennepin
Carver
Scott
Dakota
Goodhue
Wabasha
Winona
Houston
Fillmore
Mower
Olmsted
Dodge
Steele
Rice
Le Sueur
Waseca
Freeborn
Faribault
Blue Earth
Nicollet
Sibley
McLeod
Renville
Redwood
Brown
Watonwan
Martin
Jackson
Cottonwood
Nobles
Murray
Lyon
Lincoln
Pipestone
Rock
Yellow Medicine
Lac Qui Parle
Big Stone
Traverse
Cass
Crow Wing
Aitkin
Pine
Carlton
Mille Lacs
Hubbard
Wadena
Itasca
Saint Louis
Lake
Cook
Beltrami

Figure 120. Acreage of potatoes in 1889 according to census of 1890. (Based on Table XVIII)


Kittson
Marshall
Polk
Norman
Beltrami
Itasca
Saint Louis
Lake
Cook
Cook
Clay
Becker
Hubbard
Cass
Wilkin
Ottertail
Wadena
Crow Wing
Aitkin
Carlton
Todd
Pine
Grant
Douglas
Morrison
Mille Lacs
Kanabec
Traverse
Stevens
Pope
Stearns
Benton
Isanti
Chisago
Big Stone
Sherburne
Anoka
Swift
Washington
Kandiyohi
Meeker
Wright
Hennepin
Ramsey
Lac Qui Parle
Chippewa
McLeod
Carver
Yellow Medicine
Renville
Scott
Dakota
Sibley
Lincoln
Lyon
Redwood
Nicollet
Le Sueur
Rice
Goodhue
Wabasha
Brown
Pipestone
Murray
Cottonwood
Watonwan
Blue Earth
Waseca
Steele
Dodge
Olmsted
Winona
Rock
Nobles
Jackson
Martin
Faribault
Freeborn
Mower
Fillmore
Houston
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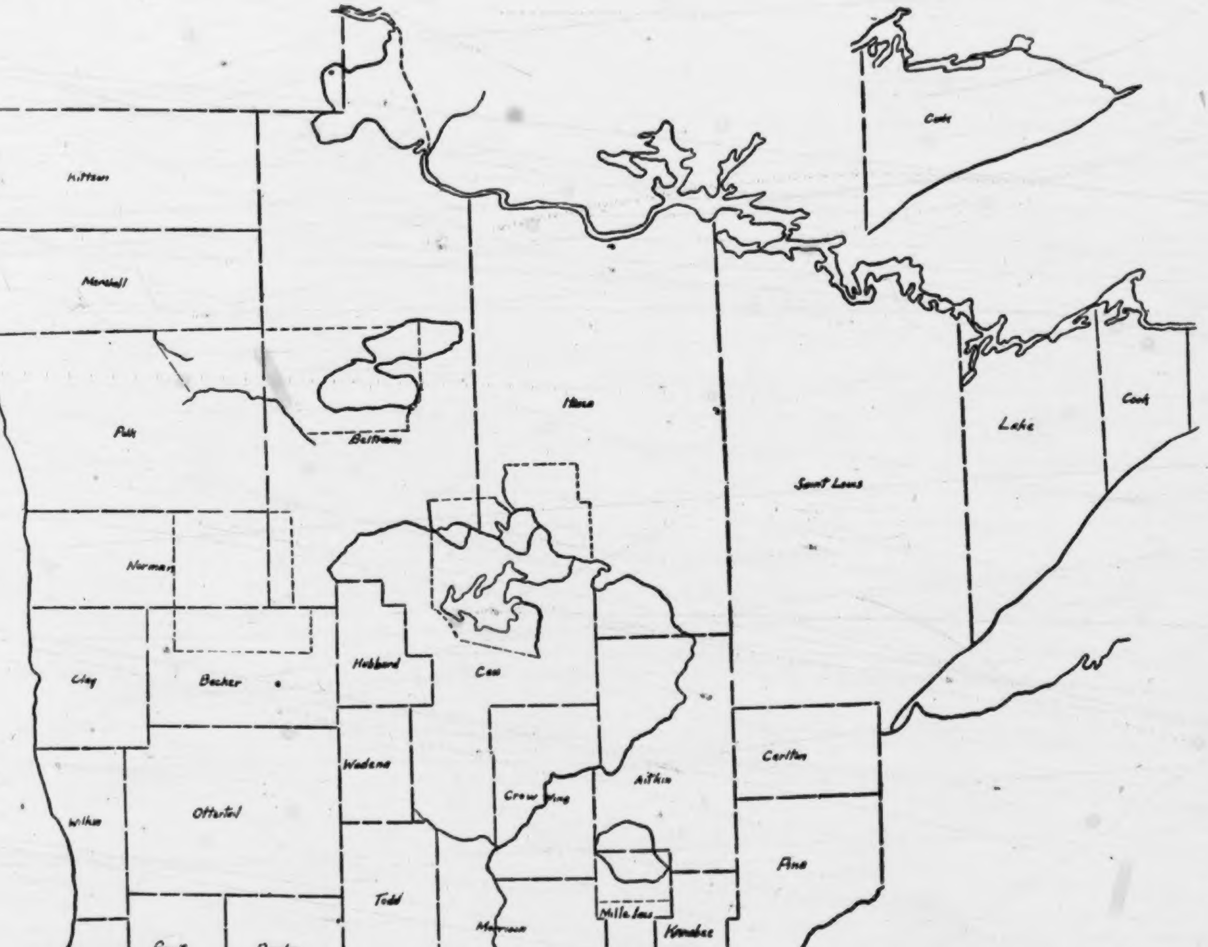
41. Production of Potatoes in Minnesota according to Census of 1890. Each dot represents 10,000 Bushels.

Figure 122. Production of potatoes in 1889 according to census of 1890. (Based on Table XVIII)


Cook
Kittson
Marshall
Polk
Beltrami
Itasca
Saint Louis
Lake
Cook
Norman
Clay
Becker
Hubbard
Cass
Wadena
Crow Wing
Aitkin
Carlton
Wilkin
Ottertail
Pine
Todd
Morrison
Mille Lacs
Kanabec
Grant
Douglas
Traverse
Benton
Isanti
Chisago
Stevens
Pope
Stearns
Big Stone
Sherburne
Anoka
Swift
Washington
Kandiyohi
Meeker
Wright
Ramsey
Lac Qui Parle
Chippewa
Hennepin
McLeod
Carver
Yellow Medicine
Renville
Scott
Dakota
Sibley
Lincoln
Lyon
Redwood
Nicollet
Le Sueur
Rice
Goodhue
Wabasha
Brown
Pipestone
Murray
Cottonwood
Watonwan
Blue Earth
Waseca
Steele
Dodge
Olmsted
Winona
Rock
Nobles
Jackson
Martin
Faribault
Freeborn
Mower
Fillmore
Houston
Copyright by E. V. Robinson

45. Production of Flaxseed in Minnesota,
according to Census of 1890.
Each dot represents 10,000 Bushels.

Figure 123. Production of flaxseed in 1889 according to the census of 1890. (Based on Table XIX)

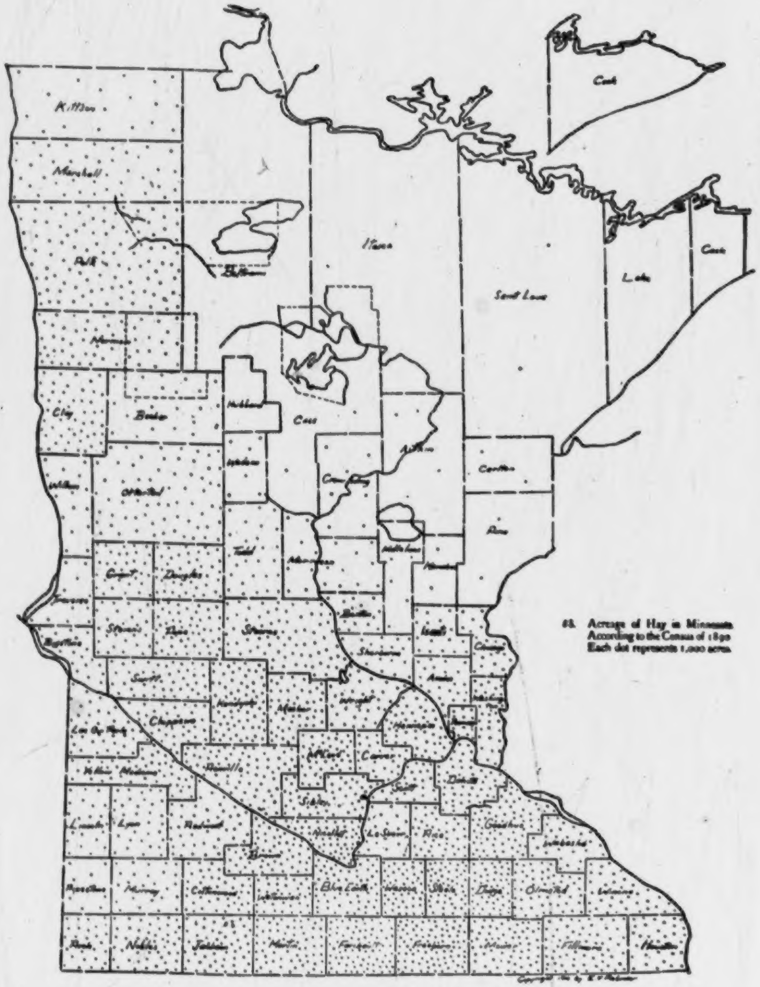

Acreage of Hay in Minnesota
According to the Census of 1890
Each dot represents 1,000 acres.
Kittson
Marshall
Polk
Beltrami
Itasca
Saint Louis
Lake
Cook
Norman
Clay
Becker
Hubbard
Cass
Aitkin
Carlton
Pine
Wilkin
Otter Tail
Wadena
Crow Wing
Todd
Morrison
Mille Lacs
Kanabec
Grant
Douglas
Traverse
Stevens
Pope
Stearns
Benton
Isanti
Chisago
Big Stone
Swift
Kandiyohi
Meeker
Wright
Sherburne
Anoka
Washington
Hennepin
Ramsey
Lac Qui Parle
Chippewa
Renville
McLeod
Carver
Scott
Dakota
Yellow Medicine
Sibley
Lincoln
Lyon
Redwood
Nicollet
Le Sueur
Rice
Goodhue
Wabasha
Brown
Pipestone
Murray
Cottonwood
Watonwan
Blue Earth
Waseca
Steele
Dodge
Olmsted
Winona
Rock
Nobles
Jackson
Martin
Faribault
Freeborn
Mower
Fillmore
Houston

Figure 124. Acreage of wild and cultivated hay in 1889 according to the census of 1890.

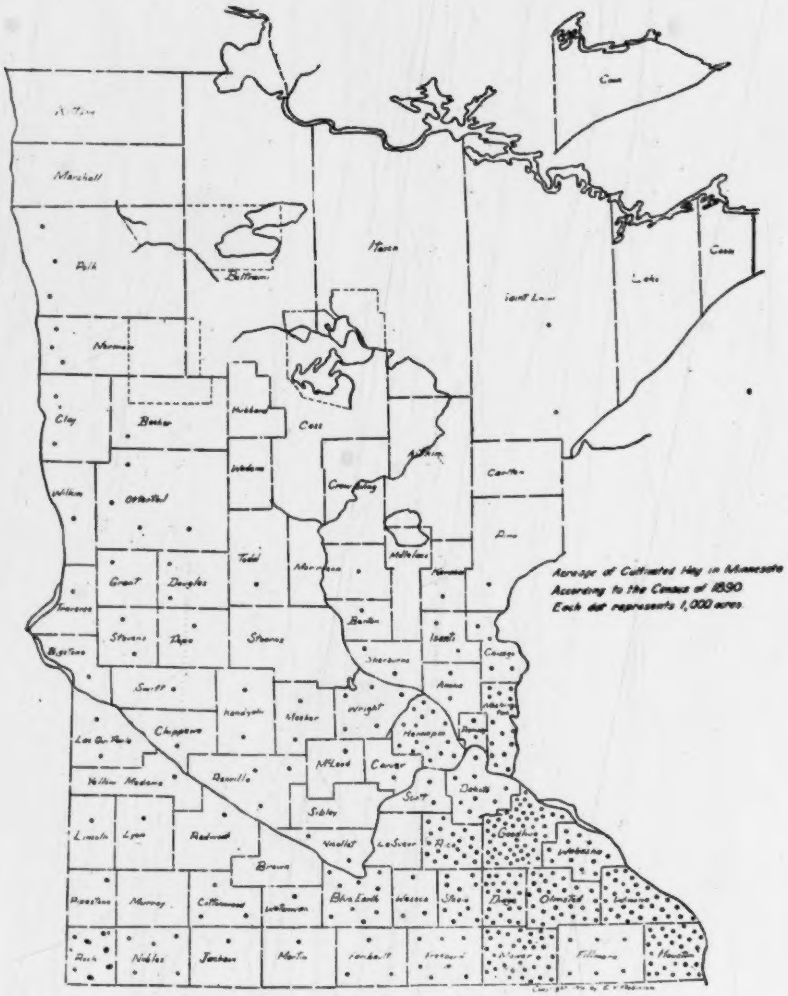

Acreage of Cultivated Hay in Minnesota
According to the Census of 1890
Each dot represents 1,000 acres
Kittson
Marshall
Polk
Beltrami
Itasca
Saint Louis
Lake
Cook
Norman
Clay
Becker
Hubbard
Cass
Aitkin
Carlton
Pine
Wilkin
Otter Tail
Wadena
Crow Wing
Todd
Morrison
Mille Lacs
Kanabec
Grant
Douglas
Traverse
Stevens
Pope
Stearns
Benton
Isanti
Chisago
Big Stone
Swift
Kandiyohi
Meeker
Wright
Sherburne
Anoka
Washington
Hennepin
Ramsey
Lac Qui Parle
Chippewa
Renville
McLeod
Carver
Scott
Dakota
Yellow Medicine
Sibley
Lincoln
Lyon
Redwood
Nicollet
Le Sueur
Rice
Goodhue
Wabasha
Brown
Pipestone
Murray
Cottonwood
Watonwan
Blue Earth
Waseca
Steele
Dodge
Olmsted
Winona
Rock
Nobles
Jackson
Martin
Faribault
Freeborn
Mower
Fillmore
Houston

Figure 125. Acreage of cultivated hay in 1889 according to the census of 1890.[27]

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[27] *Ann. Rept. Comr. of Statistics*, 1890, 41.

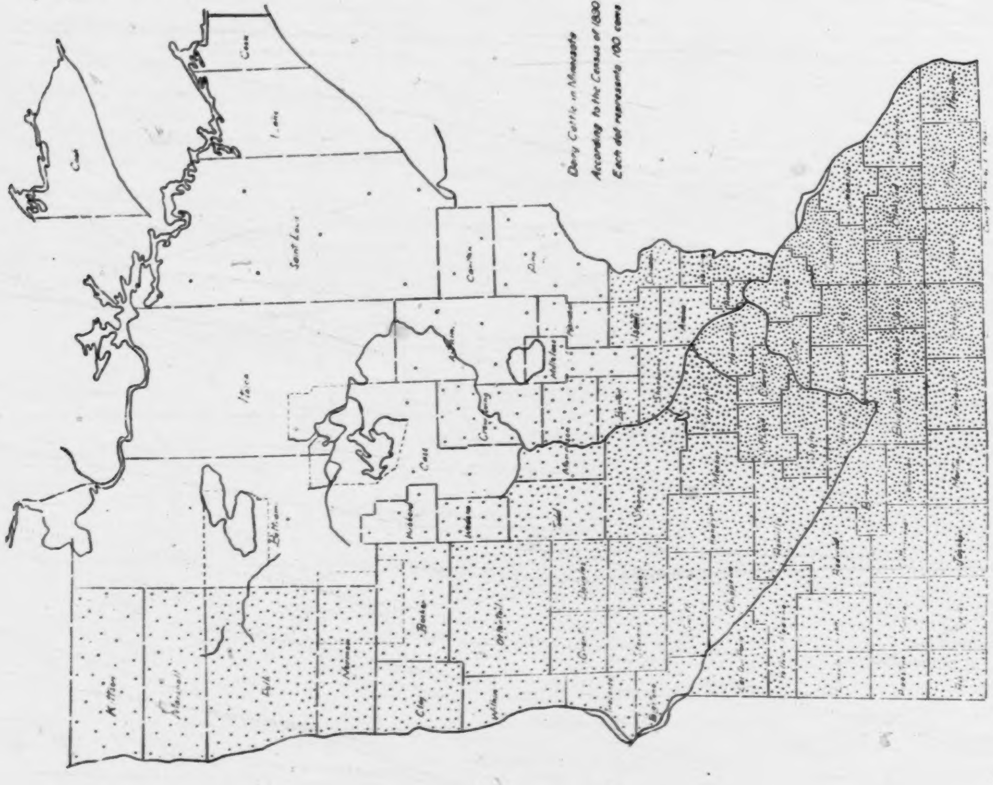
Dairy Cattle in Minnesota
According to the Census of 1890
Each dot represents 100 cows

Figure 126. Dairy cows according to the census of 1890. (Based on Table XXIV)

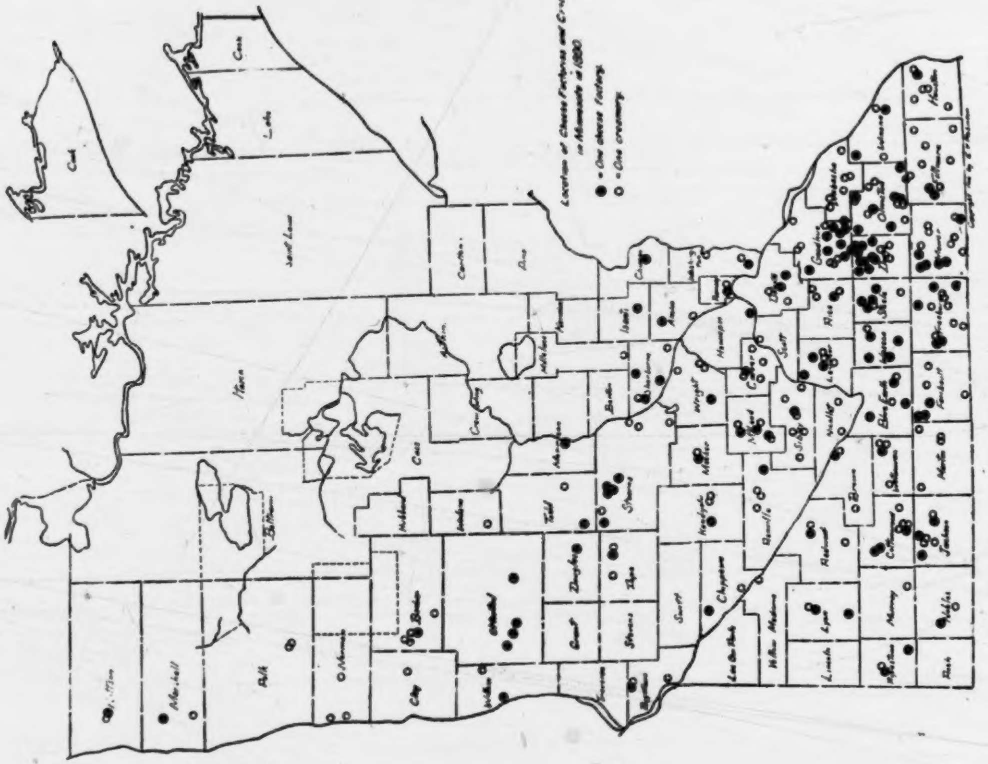
Location of Cheese Factories and Creameries in Minnesota in 1890
● = One cheese factory
○ = One creamery

Figure 127. Distribution of cheese factories and creameries in 1890.[28]

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[28] *Report of Dairy and Food Dept.*, 1891, 323.

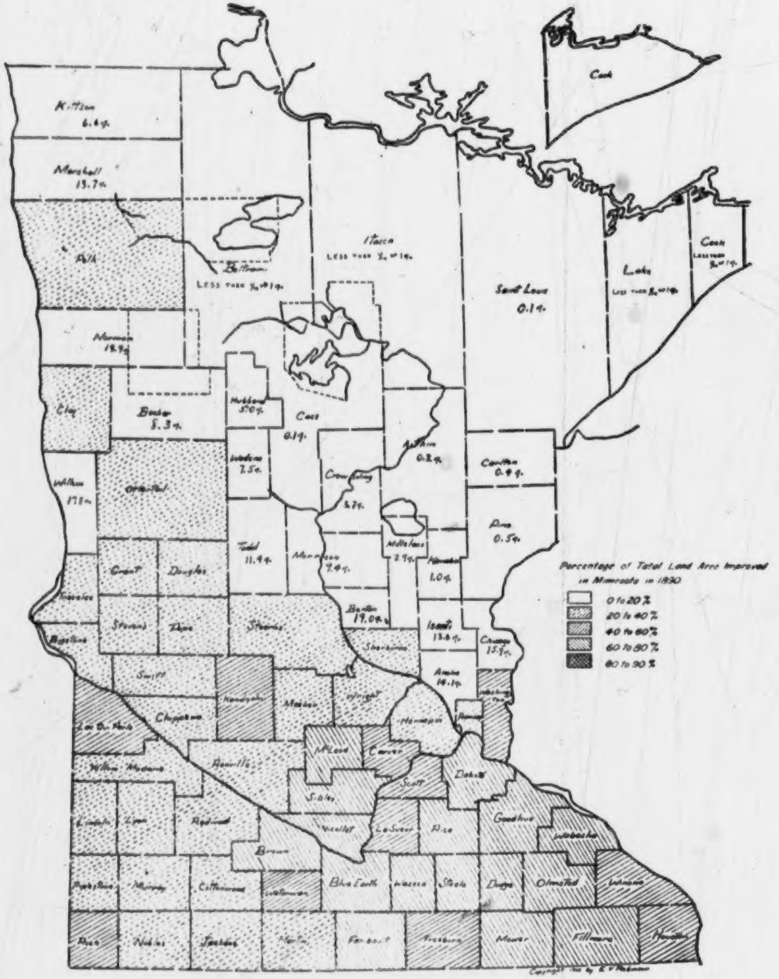
Kittson 6.4%
Marshall 13.7%
Polk
Beltrami Less than 1/10 of 1%
Itasca Less than 1/10 of 1%
Saint Louis 0.1%
Lake Less than 1/10 of 1%
Cook Less than 1/10 of 1%
Cook
Norman 18.9%
Clay
Becker 5.3%
Hubbard 5.0%
Cass 0.1%
Aitkin 0.2%
Carlton 0.4%
Wadena 7.5%
Crow Wing 4.2%
Wilkin 17.8%
Otter Tail
Pine 0.5%
Todd 11.4%
Morrison 7.4%
Mille Lacs 2.9%
Kanabec 1.0%
Grant
Douglas
Benton 19.0%
Isanti 13.6%
Chisago 15.1%
Anoka 14.1%
Percentage of Total Land Area Improved in Minnesota in 1890
☐ 0 to 20%
▨ 20 to 40%
▨ 40 to 60%
▨ 60 to 80%
▩ 80 to 90%

Figure 128. Percentage of total land area improved in 1890.

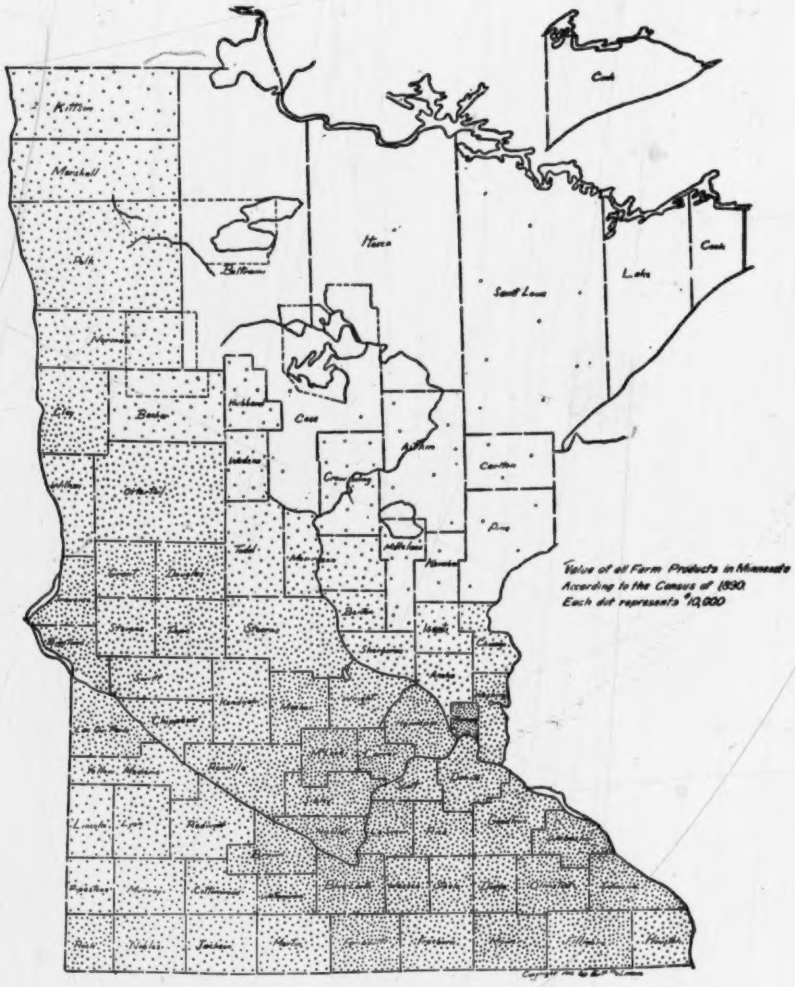
Kittson
Marshall
Polk
Beltrami
Itasca
Saint Louis
Lake
Cook
Norman
Clay
Becker
Hubbard
Cass
Aitkin
Carlton
Crow Wing
Pine
Todd
Value of all Farm Products in Minnesota
According to the Census of 1890
Each dot represents $10,000

Figure 129. Total value of all farm products in 1889 according to the census of 1890. (Based on Table XXXV)

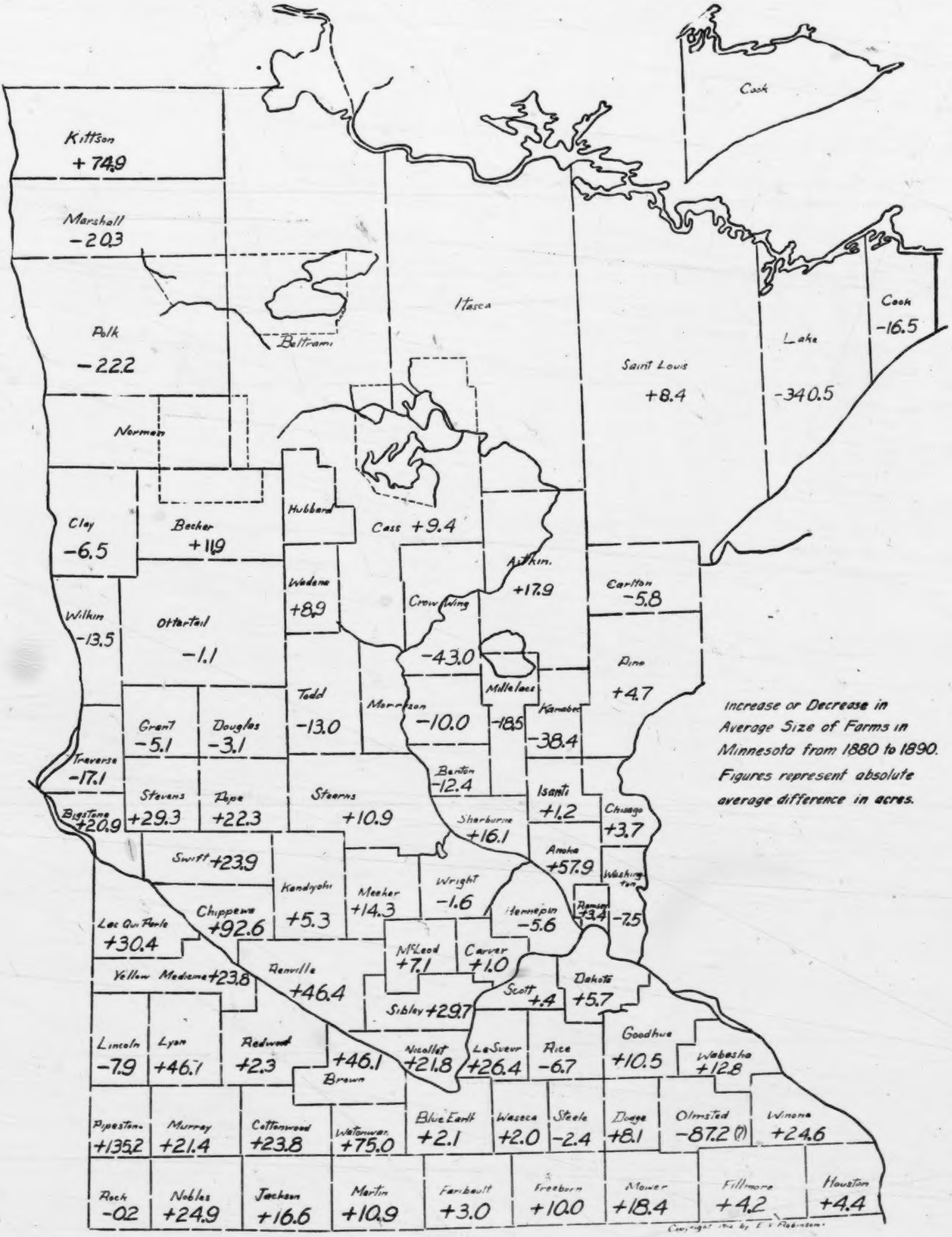
Cook
Kittson
+74.9
Marshall
-20.3
Polk
-22.2
Beltrami
Itasca
Saint Louis
+8.4
Lake
-340.5
Cook
-16.5
Norman
Clay
-6.5
Becker
+11.9
Hubbard
Cass +9.4
Aitkin.
+17.9
Carlton
-5.8
Wadena
+8.9
Crow Wing
-43.0
Wilkin
-13.5
Ottertail
-1.1
Pine
+4.7
Todd
-13.0
Morrison
-10.0
Mille Lacs
-18.5
Kanabec
-38.4
Grant
-5.1
Douglas
-3.1
Traverse
-17.1
Benton
-12.4
Isanti
+1.2
Chisago
+3.7
Stevens
+29.3
Pope
+22.3
Stearns
+10.9
Sherburne
+16.1
Big Stone
+20.9
Anoka
+57.9
Swift +23.9
Washington
-7.5
Kandiyohi
+5.3
Meeker
+14.3
Wright
-1.6
Hennepin
-5.6
Ramsey
+3.4
Lac Qui Parle
+30.4
Chippewa
+92.6
McLeod
+7.1
Carver
+1.0
Yellow Medicine +23.8
Renville
+46.4
Scott
+.4
Dakota
+5.7
Sibley +29.7
Lincoln
-7.9
Lyon
+46.7
Redwood
+2.3
+46.1
Brown
Nicollet
+21.8
Le Sueur
+26.4
Rice
-6.7
Goodhue
+10.5
Wabasha
+12.8
Pipestone
+135.2
Murray
+21.4
Cottonwood
+23.8
Watonwan
+75.0
Blue Earth
+2.1
Waseca
+2.0
Steele
-2.4
Dodge
+8.1
Olmsted
-87.2 (?)
Winona
+24.6
Rock
-0.2
Nobles
+24.9
Jackson
+16.6
Martin
+10.9
Faribault
+3.0
Freeborn
+10.0
Mower
+18.4
Fillmore
+4.2
Houston
+4.4
Increase or Decrease in
Average Size of Farms in
Minnesota from 1880 to 1890.
Figures represent absolute
average difference in acres.
Copyright 1914 by E. V. Robinson

Figure 130. Changes in average size of farms from 1880 to 1890.[29] (Based on Table XXXVI)

gained more than twice as fast as the country population, indicating the more extended use of machinery. The most rapid increases were, however, in swine and milch cows, both due to the development of the dairy industry (Items 64-77).

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[29] The sign + means increase and — means decrease during decade. Counties left blank underwent some change of boundary.

The reports of animal products bring out some of these changes still more clearly. Thus, the slight increase in wool, taken in connection with the incomplete returns both of sheep and wool in 1880 (footnotes to Items 69, 79), makes it evident that an actual decline had occurred in the sheep industry. Evidently the losses caused by dogs, combined with the rising value of land in some districts, were rendering sheep farming as then carried on, relatively unprofitable. The greatest rates of increase were in factory-made butter and cheese; and this notwithstanding the fact that the census secured reports from only 115 butter and cheese factories in 1890, against 152 creameries and 121 cheese factories (273 in all) whose exact locations and owners were definitely stated by the State Dairy and Food Department (Fig. 127). For this year, as for 1880, the federal census of butter and cheese factories was evidently so fragmentary as to be far less reliable than the state statistics. As reported, nearly one fourth of the butter, and more than four fifths of the cheese, were made in factories. The absolute increase of butter was much the greater, but, while butter increased more than five times, cheese increased more than ten times, as fast as the country population. Approximately the same relative increase occurred respectively in eggs and honey, which now began to be items of some importance.

Changes in size of farms, 1880-1890

During the decade 1880-1890 the average size of farm in Minnesota increased 14.6 acres. This increase was somewhat irregularly distributed as appears from Fig. 130.

The most significant feature of this map is the general increase of size in the older counties. In order to get at the reasons for such changes a table is presented dealing with the thirteen counties which lost country population.

TABLE 12—CHANGES IN AREAS AND VALUES IN COUNTIES SHOWING A DECREASE OF COUNTRY POPULATION, 1880 TO 1890

County	Percentage of decrease in country population	Percentage change in number of farms	Percentage change in area of all farm land	Percentage change in average size of farm	Percentage change in average value of farm products per acre of all farm land	Percentage change in average value of farms per acre	Percentage which value of farm products was of total value of farms	
							In 1880	In 1890
Dakota	—10.4	—4.9	—1.3	+3.9	—20.7	+51.3	22.9	12.0
Dodge	—0.5	—7.3	—2.0	+5.8	—22.5	—8.2	23.3	19.7
Fillmore	—8.8	—7.0	—4.2	+3.2	—19.0	+8.8	24.4	18.2
Goodhue	—9.5	—3.5	+4.3	+8.2	—42.9	—12.4	25.1	16.3
Hennepin	—18.9	+4.8	—1.3	—5.8	+6.7	+114.4	19.8	9.9
Houston	—11.9	—4.2	—1.2	+3.2	—26.6	+13.8	28.8	18.6
Mower	—3.7	—5.0	+6.5	+12.1	—11.9	+2.3	27.2	23.5
Olmsted	—12.0	+45.8	—4.8	—34.7	—24.0	—3.3	25.0	19.7
Ramsey	—3.9	—2.7	+1.5	+4.3	+113.2	+285.9	15.9	8.8
Rice	—4.6	+6.0	+0.03	—5.7	—10.4	+19.9	22.1	16.5
Scott	—2.2	+0.14	+0.38	+0.32	—23.0	+26.0	24.7	15.1
Wabasha	—0.1	—10.9	—3.4	+8.4	—17.7	—4.7	29.7	25.7
Winona	—9.7	—14.2	+0.9	+17.6	—15.3	+5.0	28.0	22.6

Along with the decrease in country population there was in most of these counties a decline in the number of farms and an increase in the average size of farms. In some there was even a loss in the total farm acreage, due presumably to the extension of roads and towns, and possibly in some cases to the abandonment of some of the poorer lands.

These relations did not, it is true, obtain in all the thirteen counties; but the most striking exception, Olmsted County, is due to an evident error in the census which can not now be eliminated. The various figures for that county are entirely inconsistent with one another and also with those for all adjacent counties. Such revolutionary changes as the reduction of farms in area by a third do not happen in ten years in a well-settled county, especially when no similar movement is evident in the neighboring territory.

Changes in values of farms and farm products

The total value of farm products rose 44 per cent, the value of farms 75.5 per cent, and the value of live stock 80.9 per cent, compared to an increase of 30.4 per cent in country population. It follows that both the production and the accumulation of wealth outran the increase of country population; and while it is true that these margins were not wide, they show that the tide had turned, since farmers were on the average more prosperous at the end than at the beginning of the decade. This change may reasonably be attributed to the influence of improved farm machinery, the new milling processes, and the dairy industry.[30]

When it comes to a comparison of values with land areas, the matter becomes more complex. A part of the increase in farm values was due to mere increase in acreage, which amounted to 39.2 per cent. If it could be assumed that the new land taken into farms averaged as high in value as land previously occupied, it would follow that 39.2 per cent of 75.5 (or 29.59 per cent) would have to be subtracted in order to ascertain the rate of increase in value of land previously farmed. This assumption

[30] It has, however, been pointed out by census officials that all figures for values before 1900 must be used with caution, being based more largely on estimates. (Coulter, J. L., in *Quarterly Journal of Economics*, November, 1912).

is, however, unsafe because the new land was presumably less valuable per acre than land in the older counties. Such additions, while increasing the aggregate value, would normally tend to "dilute" or reduce the average value of the older lands. It therefore becomes important to know what changes occurred in average values per acre (Table 13).

TABLE 13—AVERAGE VALUES PER ACRE[31]

Items	1880	1890	Absolute increase or decrease	Percentage of change (— denotes decrease)
I. Average value of farms per acre of all farm land......	$14.454	$18.220	$3.766	+26.06
Average value of farms per acre of improved land.....	$26.733	$30.559	$3.826	+14.31
Percentage of farm land improved..................	54.07	59.62	5.55	+10.27
II. Average value of farm products per acre of all farm land	$3.691	$3.817	$0.126	+ 3.42
Average value of farm products per acre of improved land...	$6.826	$6.402	—$0.424	—6.22

According to Table 13 improved land increased faster than total farm land; and while the value of farm products per acre increased 3.42 per cent for all land, it decreased 6.22 per cent for improved land. In other words, during the decade 1880-1890 as from 1870 to 1880, the increase in improved land did not proportionately raise the financial returns. This is the more difficult to explain because the crop season of 1889, represented in the census of 1890, was more favorable than the season of 1879. In the case of wheat, for example, the yield per acre was some four bushels or 35 per cent greater in 1889 than in 1879; though this was in part offset by a slightly lower price (Figs. 71, 102, 75). Moreover, the proportion of improved land under tillage was larger in 1889 (64.64 per cent) than in 1879 (61.49 per cent) as appears from Table 14, which renders the problem still more difficult of solution.

TABLE 14—RATIOS BETWEEN TOTAL, IMPROVED, AND TILLED LANDS[32]

Year	Percentage which improved land was of total in farms	Percentage which tilled land was of total in farms	Percentage which tilled was of improved land
1850..	17.44	....	....
1860..	20.51	15.98	77.89
1870..	35.81	26.61	74.29
1880..	54.07	33.25	61.49
1890..	59.62	38.54	64.64
1900..	70.26	49.31	70.18
1910..	70.98	46.03	64.85

From these facts it follows that, in spite of the larger yield of wheat, there must have been either a smaller product relative to the improved land, taking all branches of agriculture together, or a reduction in the average price of farm products. It is well known that the general level of prices did decline somewhat from 1873 to about 1897; and this fact may be a sufficient explanation of the smaller value of products per acre of improved land. However, several causes also tended to a smaller actual product per acre. Thus there was some deterioration in lands previously farmed for many years under the one-crop system; the margin of cultivation was presumably descending to poorer lands, or at least lands requiring more time to become fully productive, as larger and larger areas came into use; finally, the ratio of country population to improved land was constantly falling (Fig. 218). As each man spread his labor over more and more land, the normal result, under the law of diminishing returns, would be a larger yield per man but a smaller yield per acre, and this seems to have been substantially what happened.

On the other hand, the average value of farms rose 14.31 per cent per acre of improved land, and 26.06 per cent per acre of all farm land. There was thus a disproportionate increase of farm values in the face of decreasing returns per acre of improved land. Referring again to Table 12, relating to counties which declined in country population, it is noteworthy that in all of them except two the value of farm products per acre of farm land declined materially, the two exceptions being Hennepin and Ramsey, in which market gardening and other suburban uses of the land had acquired some importance. Moreover, in all these counties, without exception, the value of farm products of 1889 formed a smaller proportion of the value of farms than did the value of the products of 1879. At the same time, the average acre value of farms increased in nine out of the thirteen counties.

Some of these irregularities may be due to the fact that this was the section of the State which had been ravaged by chinchbugs for the longest period, and that some counties had made greater progress than others toward the adoption of mixed farming. Further, the proximity of large cities had unmistakably resulted in a speculative advance in land values in Ramsey, Hennepin,

[31] Computed from Table 17.
[32] Tilled land from *Statistics of Minnesota* for 1860 and 1870; other figures from the census.

and Dakota counties; and this same speculative influence was presumably at work in the vicinity of other important centers of population. On the whole, however, the fact that in all thirteen counties, as in the State at large, the value of farm products represented a smaller percentage of the value of farms than ten years before, and the further fact that the same tendency appeared during the decade 1870-1880 (Fig. 208), raises the question whether the fundamental cause in this advance of land values was not the decline in the rate of interest current in the State which accompanied the increase of population, the accumulation of capital, and the establishment of better credit with eastern money lenders. Certainly nothing but capitalization at a lower interest rate would enable the relatively reduced returns permanently to support such enhanced land values; unless, indeed, the ratio of net to gross farm income was increasing, which could not well happen during a period of falling prices.

Weather and crop yields, 1890-1900

The period from 1887 to 1893 was marked by relatively warm winters and cool summers (Figs. 100, 101). Thereafter, the summer temperature rose, though with many fluctuations, reaching the highest points (since 1881) in 1894 and 1900. Precipitation, on the average, increased from the low level of 1889 during the rest of the decade. There were, however, sharp and disastrous fluctuations, especially in the summers of 1893 and above all 1894, when the rainfall was approximately two inches. During these dry seasons, especially in 1894, chinch-bugs again became destructive, particularly in the forested districts where they could find good shelter in winter[33] (Fig. 131).

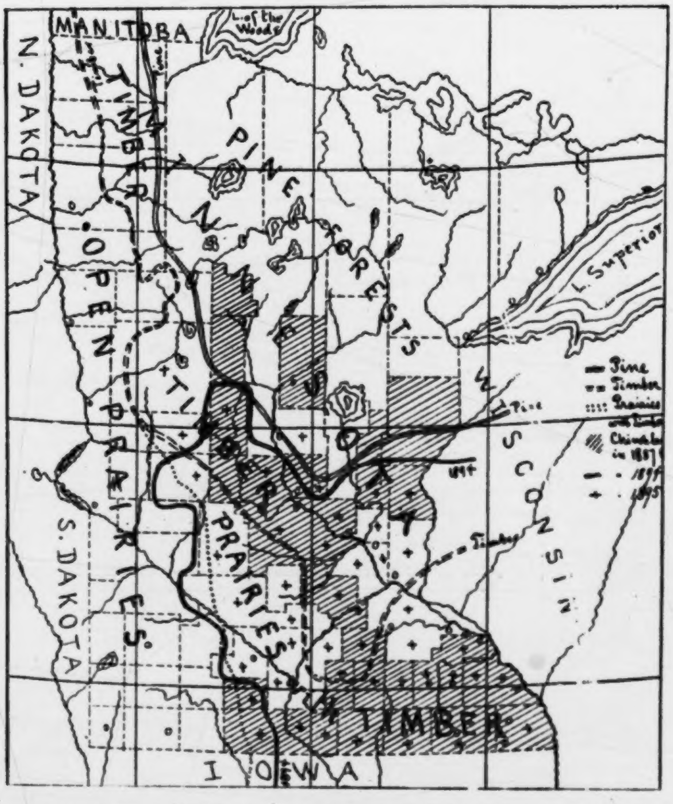

Figure 131. Distribution of chinch-bugs in 1887, 1894, and 1895.[33]

In consequence of these conditions as to weather and insects the average yield of wheat was low in seven of the nine years up to 1898, when the series of state statistics unfortunately comes to an end (Fig. 102). In 1892 the crop averaged only 11.8 bushels, in 1893 only 10.7 bushels, and in 1897 only 9.11 bushels per acre, thus falling below 10 bushels per acre for the first time since 1876 (Fig. 71). The seasons of 1891 and 1895, on the other hand, gave yields exceeding 18 bushels per acre. Other products varied somewhat, but in general were unfavorably affected in the same years and by the same conditions as wheat.[34]

Wheat prices, 1890-1900

The price of wheat continued on the whole to work lower until 1894; the last drop following the memorable panic of 1893, which diminished seriously the buying power of large classes of the population (Fig. 75). After the short crops of 1892, 1893, and 1894 a sharp rise again set in which culminated in 1898. The price of wheat in 1899 and 1900, though low relative to that in 1898, was nevertheless in advance of its price in 1893 and 1894.

The actual acreage in wheat rose in 1890 as compared to 1889, following the advance in wheat prices during the first quarter

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[33] *Ann. Rept. Agr. Exp. Sta.*, 1895, 97-123.
[34] *Ann. Rept. Comr. of Statistics*, 1896, 8.

Acreage in various crops, 1890-1900

of the year (Fig. 103). Again in 1892, after the good crop of 1891, there was a further increase which carried the acreage to the highest point recorded since 1886. With the poor crops of 1892 to 1894 the acreage again shrank, but rallied somewhat in 1895 and 1896, by reason of the slightly better yield in 1894 as compared to 1893, and the upward trend of prices which began in 1896.

In consequence of these generally unfavorable circumstances wheat lost ground relatively during the first half of the decade. In 1889 it had occupied 45.89 per cent of all tilled land;[35] in the following years, especially in 1890 and 1892, it regained some of the lost ground, but in 1895, after the low prices and poor yields of 1893-94, it held only 39.3 per cent of the tilled land. From 1878 to 1895 the proportion of land in wheat had thus declined substantially one half.

The same circumstances tended in a measure to check the increase of tilled land, as shown by Fig. 132.

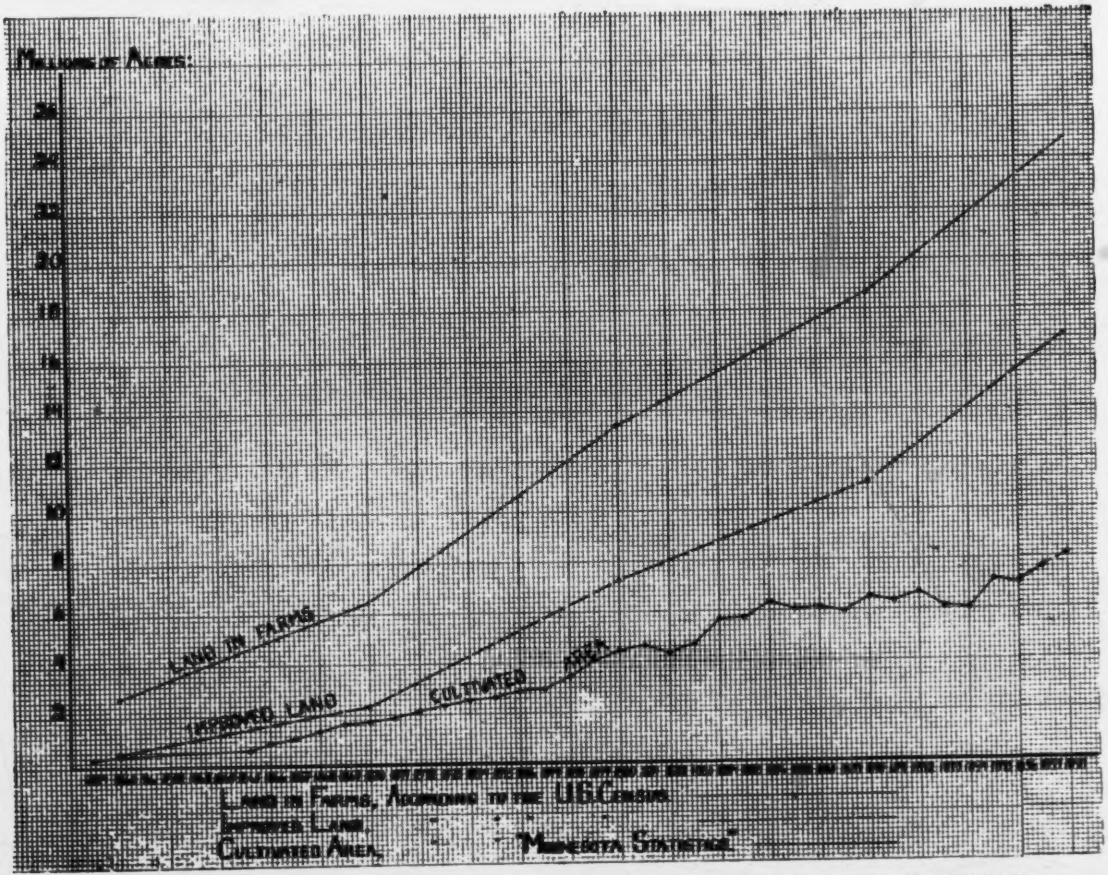

Figure 132. Increase of land in farms, land improved, and land cultivated, in Minnesota, 1859-1898.[36]

In this diagram it is noticeable that, after 1884 and especially after 1890, the margin between the tilled land reported by the state statistics and the improved land reported by the census began perceptibly to widen. In a measure, however, this widening may have been due to the break in wheat prices in 1884, which led some of the farmers to underestimate their tilled acreage. The relative loss of acreage in wheat from 1889 to 1895 was offset chiefly by the increase of corn and barley, the two gaining almost exactly the percentage lost by wheat. After the good wheat crop of 1895, especially in view of the advancing prices, more land was planted to wheat, year by year, the proportion of tilled land under that crop being thus raised from 38.91 per cent in 1895 to 47.75 in 1898. The extremely high price of wheat in the latter year resulted in another large addition to the acreage in 1899. The census of 1900, based on the 1899 crop season, thus reported 6,560,707 acres or 50.69 per cent of the tilled area in wheat, compared to 2,790,782 acres or 38.91 per cent in 1895.

This acreage marked another, and no doubt the last, culminating point of wheat culture in Minnesota; since the proportion of tilled land then reported in wheat was larger than in any year, so far as recorded, after 1886 (Fig. 104). Such an apparent relapse into specialized wheat farming caused great uneasiness in the State, as evidenced by books and other publications of the period.[37] In point of fact, however, as will appear from the distribution maps, this relapse into wheat growing was due in large part to the extension of tillage over new lands, rather than a return to wheat farming in the older counties (Fig. 135).

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[35] A calculation based on the census of 1890 with additions for certain crops not shown in the census by acres gives 46.89 per cent of tilled land in wheat. This result confirms the substantial accuracy of the state statistics so far as concerns the relative breadth of different crops.

[36] *Statistics of Minnesota*, 1869, 5; 1872, 9; 1880, 21; 1896, 17; 1898, 7.

Changes in animal industries, 1890-1900

At the World's Fair in 1893 first prizes were awarded to exhibitors from Minnesota for shorthorn cattle and Clydesdale horses.[38] Nevertheless, these successes were due to individual herds rather than to the general excellence of Minnesota live stock. The very next year Professor Thomas Shaw bore witness that beef cattle in Minnesota were not yet, on the average, of sufficiently high grade to render the production of such cattle for the market a profitable industry in competition with cattle from the western ranges.[39]

In this period occurred a series of revolutionary inventions, especially the mechanical separator, which made possible the quick and complete separation of butter fat from the milk; and the Babcock test for the determination by sample of the proportion of butter fat in milk. A separator using centrifugal force was patented as early as 1877;[40] by 1885 one was in use on the farm of Mr. J. J. Hill;[41] and by 1890 this method of separation began to come into general use.[42] At the same time (July, 1890) the Babcock test was given to the world without price.[43] These inventions for the first time put dairying on a scientific basis, and may therefore be compared, in their far-reaching importance, to the new flour milling processes. In 1891, moreover, the School of Agriculture of the State University became very active in connection with dairying. Another event of first-class importance was the introduction of the coöperative creamery. Hitherto, both cheese factories and creameries had been private concerns, operated for the benefit of their proprietors. In 1889, however, a coöperative cheese and butter factory was established at Biscay, McLeod County; and in May, 1890, a group of Danish farmers at Clark's Grove, Freeborn County, inspired by the story of coöperation in Denmark, organized the first separate creamery on the basis of ownership by the patrons.[44] This establishment became the model for many others, especially as the entire influence of the Dairy School at the University was cast in favor of the coöperative form of organization.

The Babcock test, the power separator, the introduction of refrigeration and of coöperative organization all favored the transfer of butter-making from the farm to the factory. This accordingly took place with great rapidity during the early nineties (Fig. 134). In order to shorten the haul for patrons, skim stations were also established in outlying districts, where separators were installed, only cream being forwarded thence to the creamery. In the face of these revolutionary advances in butter-making, cheese factories soon began to decline, both relatively and absolutely. The period from about 1890 to 1895 or 1896 was thus the climax of cheese-making in Minnesota.[45]

The relative localization of these two branches of the dairy industry seems to have been affected to some extent by the nationality of the settlers; the Swiss bringing the traditions of cheese-making and the Danes favoring butter (Fig. 133). At all events, Freeborn County, which contained by far the largest settlement of Danish farmers, early became the leading butter county;[46] while Dodge and Goodhue, containing the largest Swiss colony outside of the cities, have maintained an even more striking lead in the production of cheese[47] (Table XXXII).

In the northwestern cheese district, comprising Red Lake and Polk counties, French settlers have been active in cheese manufacture,[50] and it is possible that old-country traditions have likewise played a part.

Distribution of crops according to the census of 1900

Wheat growing, whether tested by acreage or yield (Figs. 135, 136), had perceptibly migrated toward the west and northwest. In the southeast it was unimportant, except in Goodhue and the counties immediately west which were decreasing in population. On the other hand, the area of greatest density lay in the upper Minnesota Valley and the belt of heavy land extending south from the big bend of the Minnesota. Next to these districts, the principal wheat-growing area was the Red River Valley.

Oats continued to be produced in all the agricultural counties, chiefly for local use. In addition, there were two districts where this grain had practically replaced wheat as a market crop: one in Dakota County, adjacent to the great cities, the other in Fillmore and Mower counties, where the southeastern plateau reaches the greatest elevation (Figs. 137, 138).

Barley spread northward during the decade, becoming of some importance in all the Red River counties. In the main, however, barley growing was concentrated in two separate districts: one in the extreme southwest on and south of the Coteau des Prairies, the other including five counties in the southeast, east of Steele and north of Mower and Fillmore. In these counties barley had largely replaced wheat as a market crop, possibly in part because of the local markets offered by the breweries in La Crosse and other towns on the Mississippi; but in the main because barley yielded better than wheat on lands somewhat depleted by the one-crop system. Such lands are sometimes preferred for barley because it is less likely to run unduly to stalk and to "lodge" under heavy winds and rain. Of the several counties Olmsted and Wabasha led in barley, as Mower and Fillmore did in oats.

The principal rye-growing district overlapped the barley district in Goodhue County, but for the rest lay farther north, extending from Dakota to Sherburne and Isanti counties. The larger part of the crop, indeed, was on the lighter soils, adjacent to and east of the Mississippi (Figs. 141, 142).

Corn had advanced a little toward the north, but in the main was confined to the southern third of the State, as was the case in 1890 (Figs. 143, 144). Within that area, however, corn had gained considerable ground. The area of greatest density of

[37] Latzke, Paul, *The Predicament of Minnesota* (St. Paul, 1904).
[38] *Ann. Rept. Comr. of Statistics*, 1893, 142.
[39] *Report of State Agricultural Society*, 1894, 77.
[40] Wing, Henry H., *Milk and Its Products* (New York, 1913), 112.
[41] Seventh Report Minnesota Dairymen's Association, 1885.
[42] *Report Delaware Exp. Sta.*, 1892, 110-122; also Bul. 17.
[43] Wis. Exp. Sta., Bul. 24, July, 1890.
[44] Vye, J. A., *The Story of the Birth of a Great Coöperative Movement.*
[45] *Seventh Biennial Report Dairy and Food Dept.*, 162-163.
[46] Excluding counties containing centralizers.
[47] Table XXXII. Compare *Ninth Biennial Report Dairy and Food Dept.*, 35
[50] Statement of State Dairy Commissioner.

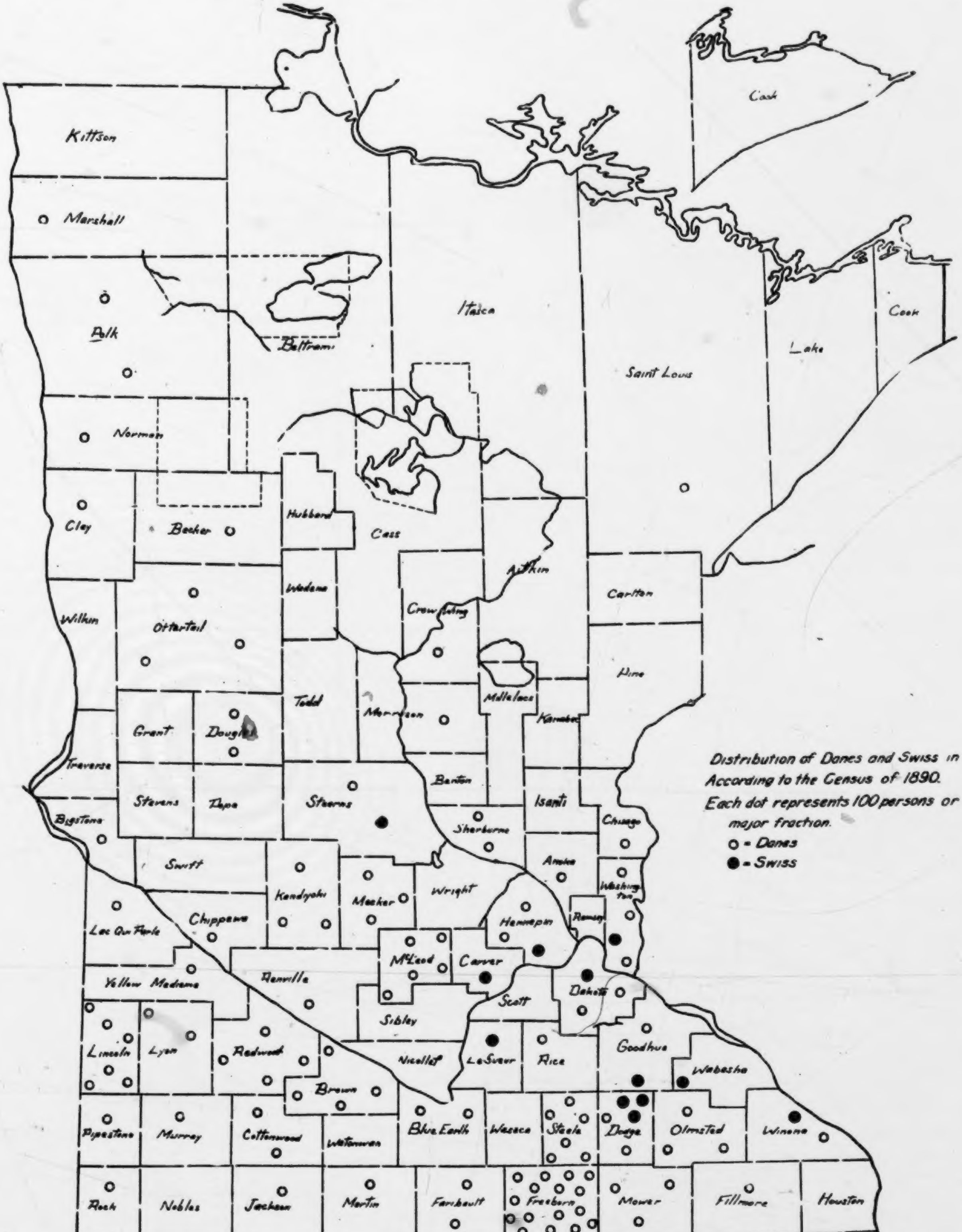
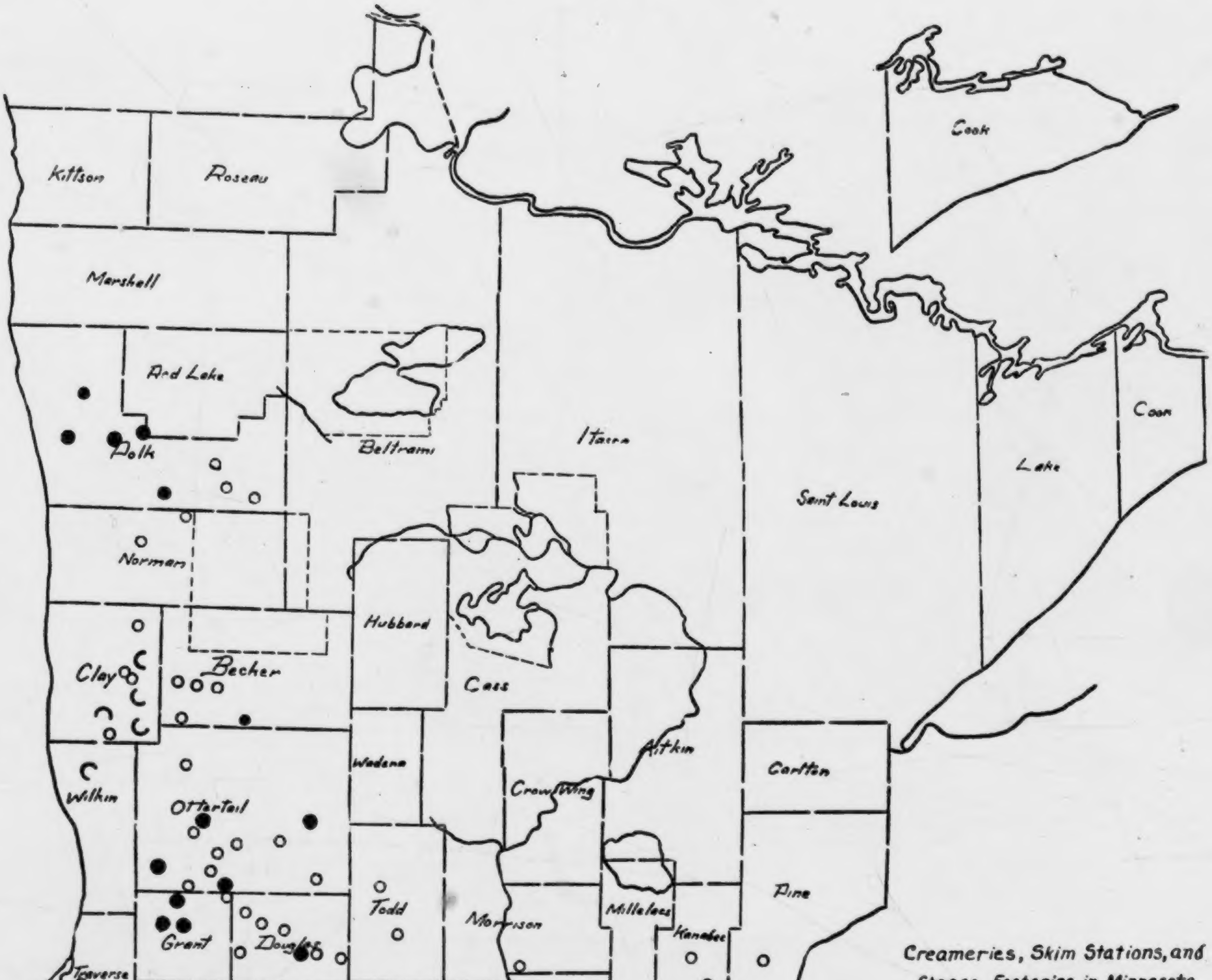

Cook
Kittson
Marshall
Polk
Beltrami
Itasca
Saint Louis
Lake
Cook
Norman
Clay
Becker
Hubbard
Cass
Wadena
Crow Wing
Aitkin
Carlton
Wilkin
Ottertail
Pine
Todd
Morrison
Mille Lacs
Kanabec
Grant
Douglas
Traverse
Stevens
Pope
Stearns
Benton
Isanti
Bigstone
Sherburne
Chisago
Swift
Anoka
Kandiyohi
Meeker
Wright
Washington
Lac Qui Parle
Chippewa
Hennepin
Ramsey
McLeod
Carver
Dakota
Yellow Medicine
Renville
Scott
Sibley
Lincoln
Lyon
Redwood
Nicollet
Le Sueur
Rice
Goodhue
Wabasha
Brown
Pipestone
Murray
Cottonwood
Watonwan
Blue Earth
Waseca
Steele
Dodge
Olmsted
Winona
Rock
Nobles
Jackson
Martin
Faribault
Freeborn
Mower
Fillmore
Houston
Distribution of Danes and Swiss in Minn.
According to the Census of 1890.
Each dot represents 100 persons or
major fraction.
○ = Danes
● = Swiss
Copyright 1910 by E V Robinson

Figure 133. Distribution of Danes and Swiss outside the three large cities according to the census of 1890.[49]

[49] Excluding 355 Swiss reported for Isanti in 1890. The census showed only two Swiss there in 1900 and seven in 1910. Evidently some enumerator in 1890 confused "Swiss" with "Swedes."


Creameries, Skim Stations, and Cheese Factories in Minnesota in 1896
○ = one creamery
∩ = one skim station
● = one cheese factory
Kittson
Roseau
Marshall
Red Lake
Polk
Beltrami
Itasca
Cook
Lake
Saint Louis
Norman
Clay
Becker
Hubbard
Cass
Wilkin
Ottertail
Wadena
Crow Wing
Aitkin
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McLeod
Carver
Yellow Medicine
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Dakota
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Redwood
Nicollet
Le Sueur
Rice
Goodhue
Wabasha
Brown
Pipestone
Murray
Cottonwood
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Blue Earth
Waseca
Steele
Dodge
Olmsted
Winona
Rock
Nobles
Jackson
Martin
Faribault
Freeborn
Mower
Fillmore
Houston
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Figure 134. Creameries, skim stations, and cheese factories in 1896.[50]

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[50] Report of State Dairy Commissioner, 1896, map.

corn growing included the southern tier of counties, and the lower Minnesota Valley. The leading corn county at the census of 1900, all things considered, was Fillmore, originally and for many years the leading wheat county; although it led in corn by a smaller margin than Mower did in oats or Olmsted in barley.

The production of potatoes was naturally well distributed, owing to the universal use and bulky nature of this crop (Figs. 145, 146). In addition, two areas of specialized potato culture appeared; one near the large cities, extending from Dakota to Isanti and Chisago counties; the other in Clay County in the Red River Valley. The character of the industry was, however, essentially different in the two areas. The potato belt near the cities coincided almost exactly with the principal rye district, since both crops do well on sandy soils not suited to most cereals. Besides supplying the city market, this district also furnished potatoes for shipment to the East as previously noted (p. 111). In Clay County, on the other hand, Early Ohios were grown for shipment to states further south as seed potatoes. This industry owed its establishment to individual initiative, Mr. Henry Schroeder being the pioneer potato grower of that region.[51] It is, however, based on the fact that northern-grown seed give better results than seed native to the southern locality where used.

Flax was extensively grown for seed in two principal districts (Figs. 147, 148): one, the southeastern counties which had abandoned or were in process of abandoning the one-crop system, where flax divided the ground with oats, barley, and corn; the other district in the newer prairie counties extending from south to north along the western boundary of the State, where flax was still in part a sod crop.

The hay crop, including both wild and tame, was coextensive with the zone of agricultural settlement and even lapped over into the lumbering region. The distribution of tame hay was less even, the bulk of the acreage being in the counties south and east of Stearns County (Figs. 149, 150). Considerable areas were, however, planted to tame hay in all except the northern tier of counties in the Red River Valley. This fact indicates a great advance of diversified farming since 1890 (Figs. 125, 150).

Distribution of the dairy industry in 1900

Dairy cattle, like the hay crop, were distributed over the entire agricultural zone (Fig. 151). There were, however, two areas of greater than average density: one in Freeborn and adjacent counties in the south central district, which led in butter production; the other in the counties lying west of the Twin Cities, where milk was to some extent produced for the city markets and for the large creameries or "centralizers" located there. East of the Mississippi the dairy industry had made progress adjacent to the cities, but on the whole far less than would have been expected in view of the favorable location of this district and the fact that the soil there is better suited to grass and root crops than to grains. This relative retardation was presumably due to the general preference in recent decades for prairie over forested lands.

The census of 1890 unfortunately continued to combine creameries and butter factories, reporting 596 of both classes but without definite indication as to their location. The census was evidently incomplete on this point, as it had been previously, since the State Dairy and Food Department gave the location and owner of 664 creameries and 90 cheese factories in 1898, two years before the census, and in 1901 reported in like manner 681 creameries and 73 cheese factories, a total of 754 (Fig. 152). The substantial accuracy of this figure is confirmed by the census of manufactures for 1904 which, for the first time, made a careful report on the dairy industry in Minnesota, giving 771 creameries and cheese factories.

Distribution of improved land according to the census of 1900

In 1900 seven counties in the two southern tiers and two in the Minnesota Valley had between 80 and 90 per cent of their entire land area improved; all the others west of the Mississippi and south of Grant County had from 60 to 80 per cent improved, except several fronting on the Mississippi and lower Minnesota. In these the bluffs and marshy bottoms interfere with full cultivation. It is noticeable that Rock County, in the extreme southwestern corner, had over 80 per cent, while Houston and Winona counties, in the rolling driftless area, had less than 60 per cent of improved land. East of the Mississippi only Washington County was in the 60 per cent class. In fact, nearly all the region east of the Mississippi had less than 5 per cent of its area improved (Fig. 153).

From Fig. 152 it is clear how widely the dairy industry had spread, even in the Red River Valley, and also how far the output of butter exceeded that of cheese. The principal center of cheese production was still in Dodge and adjacent counties, with scattering factories elsewhere. These were relatively most numerous in the Park region and the Red River Valley, probably because a larger number of cows is necessary to support a creamery than a cheese factory. This fact gives the cheese industry a certain advantage in new dairy districts.

Distribution of value of products in 1900

The immense expansion of agriculture from 1890 to 1900, compared to earlier decades, is nowhere more clearly apparent than in the distribution of value of products (Fig. 154). The entire southern section, and also the Red River Valley, now belonged to the agricultural zone, while the northeastern two fifths of the State still remained almost untouched by the plow. In spite of the rapid spread of agriculture toward the west and northwest the value of products per square mile was greatest in the older section, south and east of Stearns County. The fresh soils of the newer counties were thus more than offset, so far as concerned the financial return per acre, by greater labor applied to the land in the older counties. It should be noted, however, that while this more intensive use of the soil naturally gave larger returns per acre, the returns per man and per team were frequently larger on the newer lands, owing to the increasing cost of production per unit of output under intensive cultivation (page 221).

Distribution of population in 1900

In 1900 the center of density of population was in the counties adjacent to the two great cities, and in the Minnesota Valley counties below the big bend. Settlement had continued to spread in the Red River Valley, occupying the last of the prairie townships; and from there had begun to work eastward into the brush prairies. Except for the strip adjacent to this valley, most of the hardwood belt of the State (Figs. 8, 153) was in farms, though wood-lots still occupied a considerable area. East of the Mississippi scattered clearings appeared along the railroads even in the cut-over and (largely) burned-over coniferous zone,

[51] Letter under date of April 14, 1913, from Mr. L. A. Huntoon, President First National Bank of Moorhead.

[52] *Biennial Report of Dairy and Food Dept.*, 1899, map.

especially between St. Paul and Duluth. This decade was also marked by the development of the Mesabi iron range, and therefore by the appearance of a considerable population, for the most part resident in towns, in St. Louis County (Figs. 155, 156).

If all incorporated places be eliminated, as is done in the map of country population (Figs. 155, 156), most of the apparent settlement in this northeastern region disappears. The coniferous zone stood in 1900 as a great island of wilderness, thinly sprinkled with logging and mining camps and towns, but barely touched as yet by agricultural settlement. On the other hand, the remainder of the State, aside from the center of density west and southwest of the Twin Cities, showed a surprising evenness of settlement. Evidently a dominant type of agriculture, based on substantial equality of soil, had worked itself out in an approximately equal spread of population over the land.

The decrease of country population, noted for the previous decade, continued between 1890 and 1900 in five of the same thirteen counties; though the rate of decrease was less rapid in all of them except Wabasha (Figs. 109, 157). In addition, three counties lying farther west, at the big bend of the Minnesota, suffered a loss of country population. The extent to which the decrease was spread over these counties is shown in Table 15.

TABLE 15.—PROPORTION OF TOWNSHIPS WHICH LOST COUNTRY POPULATION, 1890-1900

County	Total number of townships	Townships reported as losing population	Number of new incorporations	Losses due to new incorporations	Net number decreasing
Blue Earth	23	12	3	2	10
Fillmore	24	9	0	0	9
Goodhue	23	15	1	1	14
Le Sueur	14	5	1	0	5
Nicollet	13	10	2	1	9
Rice	14	6	3	2	4
Wabasha	17	11	5	5	6
Winona	20	14	4	4	10
Total	148	82	19	15	67

An inspection of these figures, and of the list of villages newly incorporated in the several counties, shows that the large apparent decrease in Wabasha was due in great part to the separation of villages not reported as such in 1890; and that the same cause affected the returns from several of the other counties to some extent. On the whole, however, the fact remains that there was an actual loss of population in nearly half of the purely rural townships.

By way of possible explanation it may be pointed out that these eight counties formed a zone in which dairying had made less advance, and more reliance was therefore still placed on grain growing than in Freeborn and the adjacent south central counties (Figs. 149-151, 135-144). The inference would be that dairying gives employment to more people. Some further light is thrown on the matter by an examination of the changes in size of farms. From the map (Fig. 158) it is evident at a glance that the relation of population and size of farms was not uniform, which probably indicates the existence of unknown factors in the problem; but the fact that farms increased in size in six out of the eight counties which lost country population creates a presumption that consolidation of land holdings was a fundamental cause underlying the decrease of population. If it be objected that much greater increases in size of farms occurred in the southwest and west, without a decrease in country population, the answer is that in 1900 there was still unoccupied land in those counties which could be added to farms without ousting anyone; which was not the case in most of the older southeastern counties.

Summary of agricultural changes for the state as a whole, 1890-1900

In order to bring out clearly the extent, rate, and direction of change, the corresponding items for 1890 and 1900 are given in Table 18, at the end of the chapter, with an analysis of the changes on the percentage basis, and also with reference to the rural population.

The country population in the State as a whole increased 25.7 per cent during the decade ending 1900, which was less than the rate (30.4 per cent) in the decade ending 1890. On the other hand, town population increased 43 per cent, compared with 153.5 per cent during the preceding decade. The towns thus slowed down greatly in their rate of increase, but they nevertheless continued to gain faster, both absolutely and relatively, than the open country (Items 1-3).

The total land in farms was augmented by 7.6 million acres or 40.6 per cent during the decade, most of this increase (7.3 million acres) being represented by improved land. While total land in farms increased 40.6 per cent, and improved land 65.7 per cent, the gain in number of farms amounted only to 32.4 per cent. As a result, the average farm was larger by an even 10 acres, or 6.3 per cent, and contained a fourth (25.3 per cent) more improved land (Items 4-9).

The acreage in wheat almost doubled, the bulk of this increase, as previously noted, being in the last half of the decade; while the production increased less rapidly, the average yield being a bushel per acre lower in 1899 than in 1889.

Rye also showed a larger acreage and smaller average yield, while buckwheat had declined in both respects. On the other

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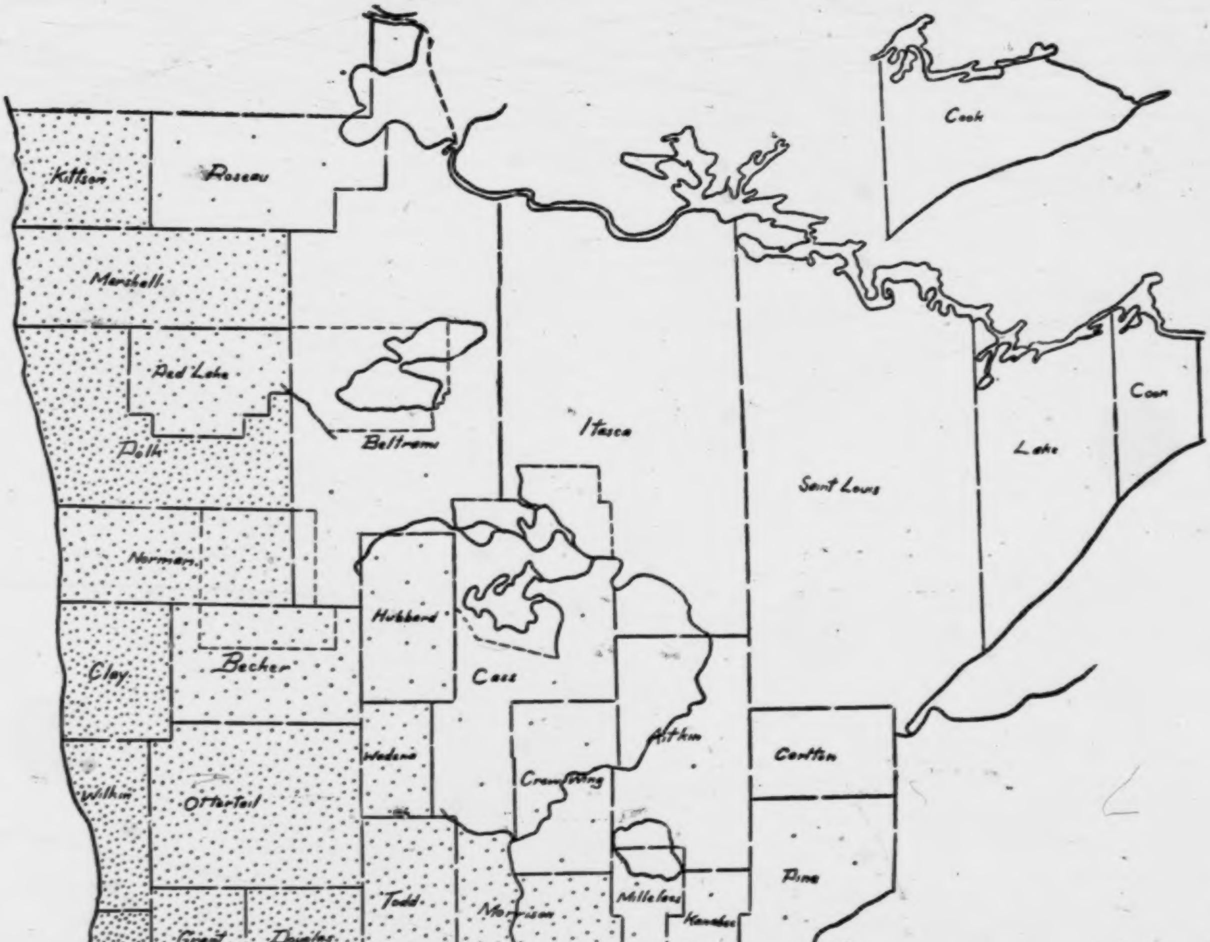
[53] *Biennial Report of Dairy and Food Dept.*, 1903, 16, 38.

[54] Roseau and Red Lake counties formed from Kittson and Polk, distributing figures for these counties, which nevertheless showed an increase in population and size of farms.


Kittson
Roseau
Cook
Marshall
Red Lake
Polk
Beltrami
Itasca
Cook
Lake
Saint Louis
Norman
Clay
Becker
Hubbard
Cass
Wadena
Crow Wing
Aitkin
Carlton
Wilkin
Ottertail
Todd
Morrison
Mille Lacs
Kanabec
Pine
Grant
Douglas
Traverse
Stevens
Pope
Stearns
Benton
Isanti
Chisago
Sherburne
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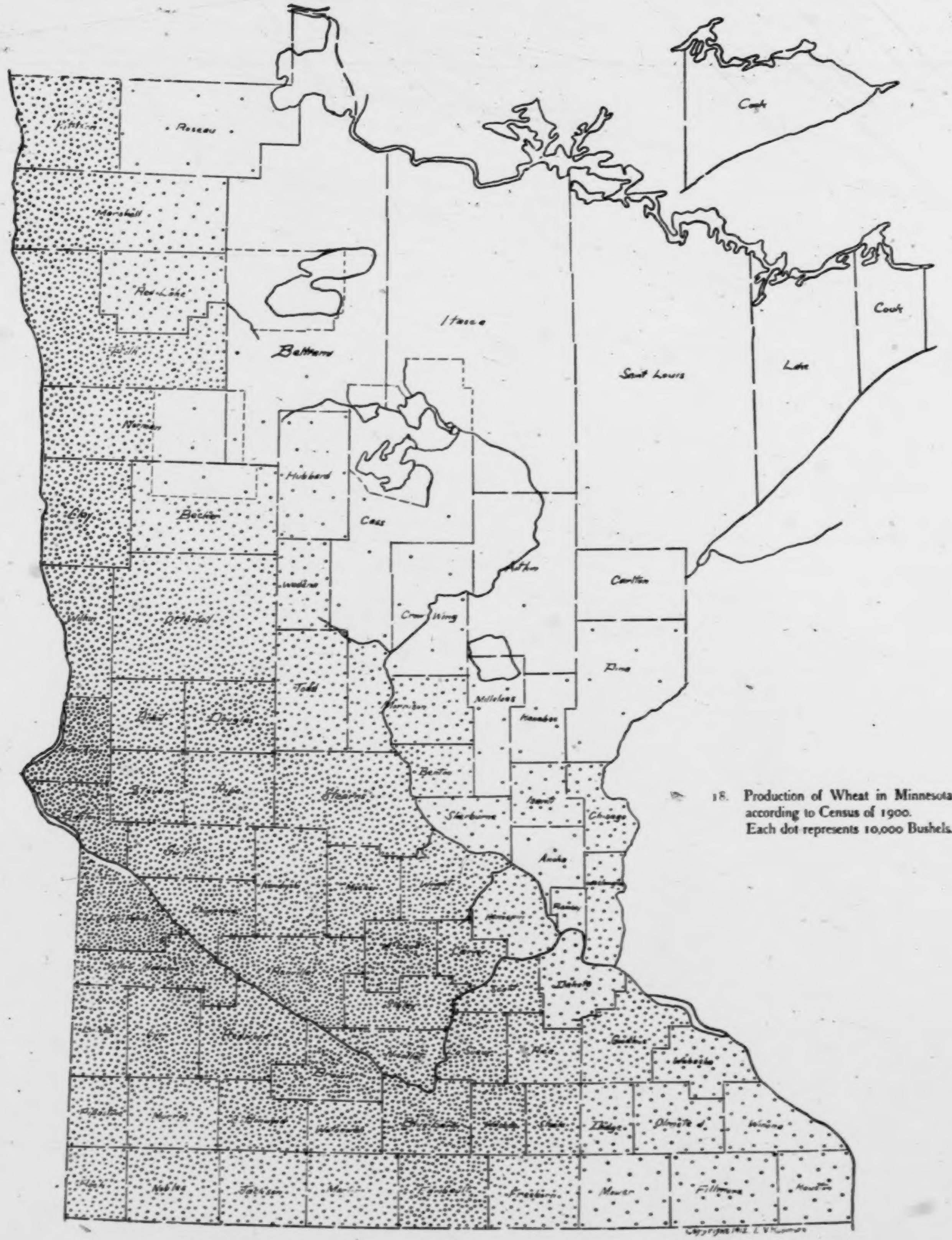
Swift
Kandiyohi
Meeker
Wright
Anoka
Washington
Hennepin
Ramsey
Lac Qui Parle
Chippewa
McLeod
Carver
Yellow Medicine
Renville
Scott
Dakota
Sibley
Lincoln
Lyon
Redwood
Nicollet
Le Sueur
Rice
Goodhue
Wabasha
Brown
Pipestone
Murray
Cottonwood
Watonwan
Blue Earth
Waseca
Steele
Dodge
Olmsted
Winona
Rock
Nobles
Jackson
Martin
Faribault
Freeborn
Mower
Fillmore
Houston

62. Acreage of Wheat in Minnesota according to Census of 1900.
Each dot represents 1,000 acres.

Figure 135. Acreage of wheat in 1899 according to census of 1900. (Based on Table XIII)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Red Lake
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Beltrami
Itasca
Saint Louis
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Cook
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Hubbard
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Becker
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Carlton
Wadena
Crow Wing
Pine
Otter Tail
Todd
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Mille Lacs
Kanabec
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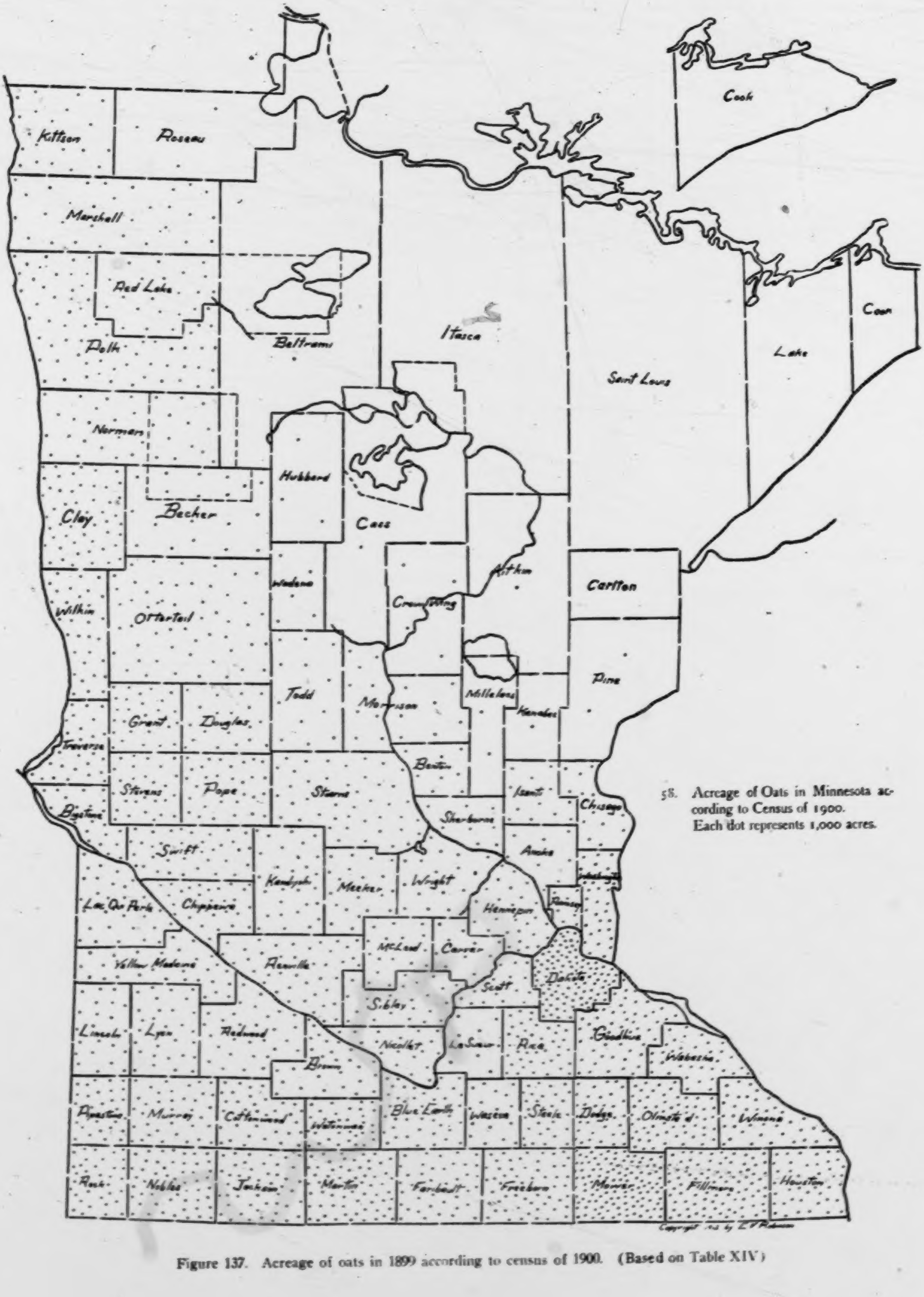
Stearns
Sherburne
Isanti
Chisago
Anoka
Hennepin
Ramsey
Dakota
Goodhue
Wabasha
Dodge
Olmsted
Winona
Mower
Fillmore
Houston
Freeborn
Faribault
Martin
Jackson
Nobles
18. Production of Wheat in Minnesota according to Census of 1900. Each dot represents 10,000 Bushels.

Figure 136. Production of wheat in 1899 according to the census of 1900. (Based on Table XIII)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Clay
Becker
Hubbard
Cass
Wadena
Crow Wing
Aitkin
Carlton
Wilkin
Otter Tail
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Mille Lacs
Kanabec
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Meeker
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Hennepin
Ramsey
Lac Qui Parle
Chippewa
Yellow Medicine
Renville
McLeod
Carver
Scott
Dakota
Sibley
Lincoln
Lyon
Redwood
Nicollet
Le Sueur
Rice
Goodhue
Wabasha
Brown
Pipestone
Murray
Cottonwood
Watonwan
Blue Earth
Waseca
Steele
Dodge
Olmsted
Winona
Rock
Nobles
Jackson
Martin
Faribault
Freeborn
Mower
Fillmore
Houston
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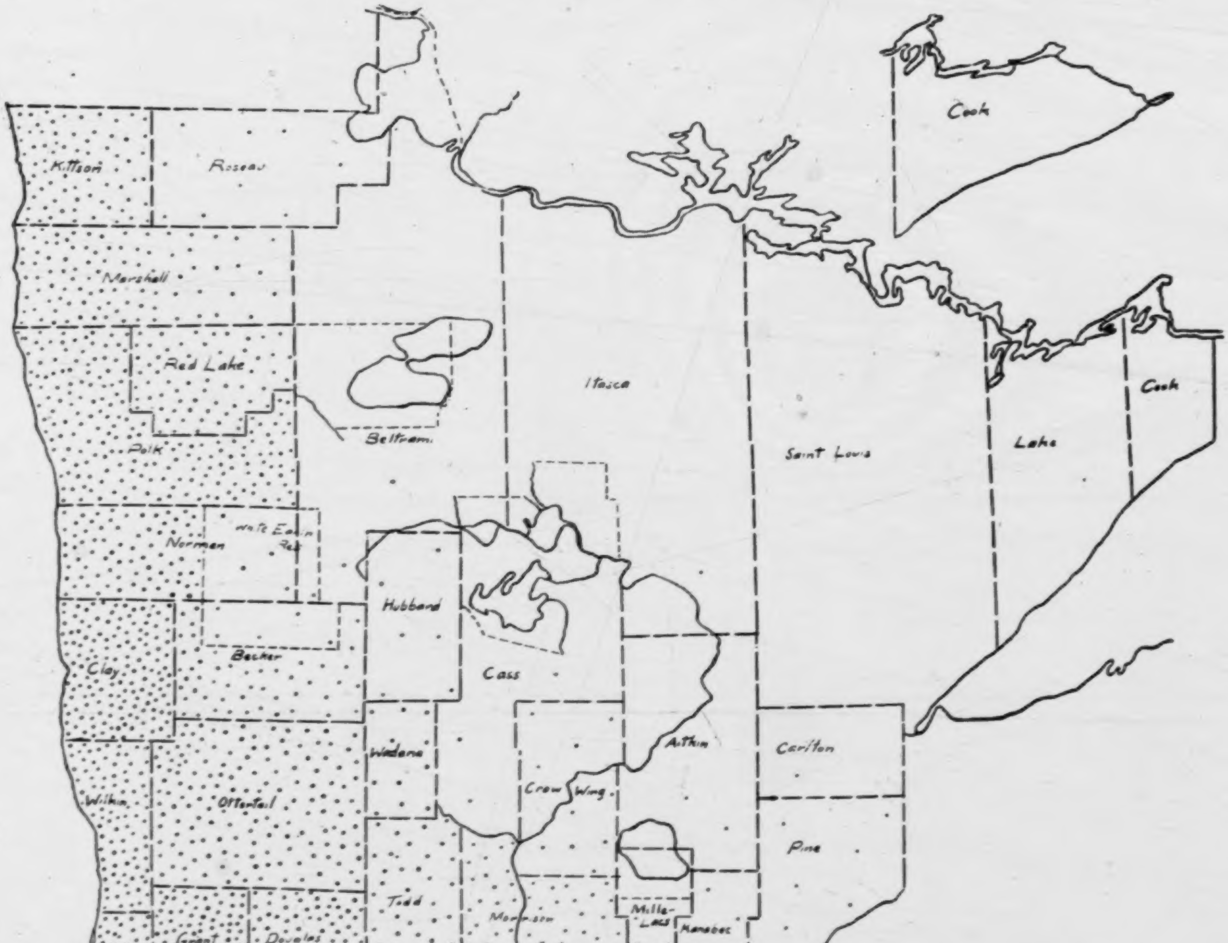
58. Acreage of Oats in Minnesota according to Census of 1900.
Each dot represents 1,000 acres.

Figure 137. Acreage of oats in 1899 according to census of 1900. (Based on Table XIV)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Crow Wing
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Le Sueur
Rice
Goodhue
Brown
Pipestone
Murray
Cottonwood
Blue Earth
Steele
Winona
Jackson
Martin
Faribault
Freeborn
Houston
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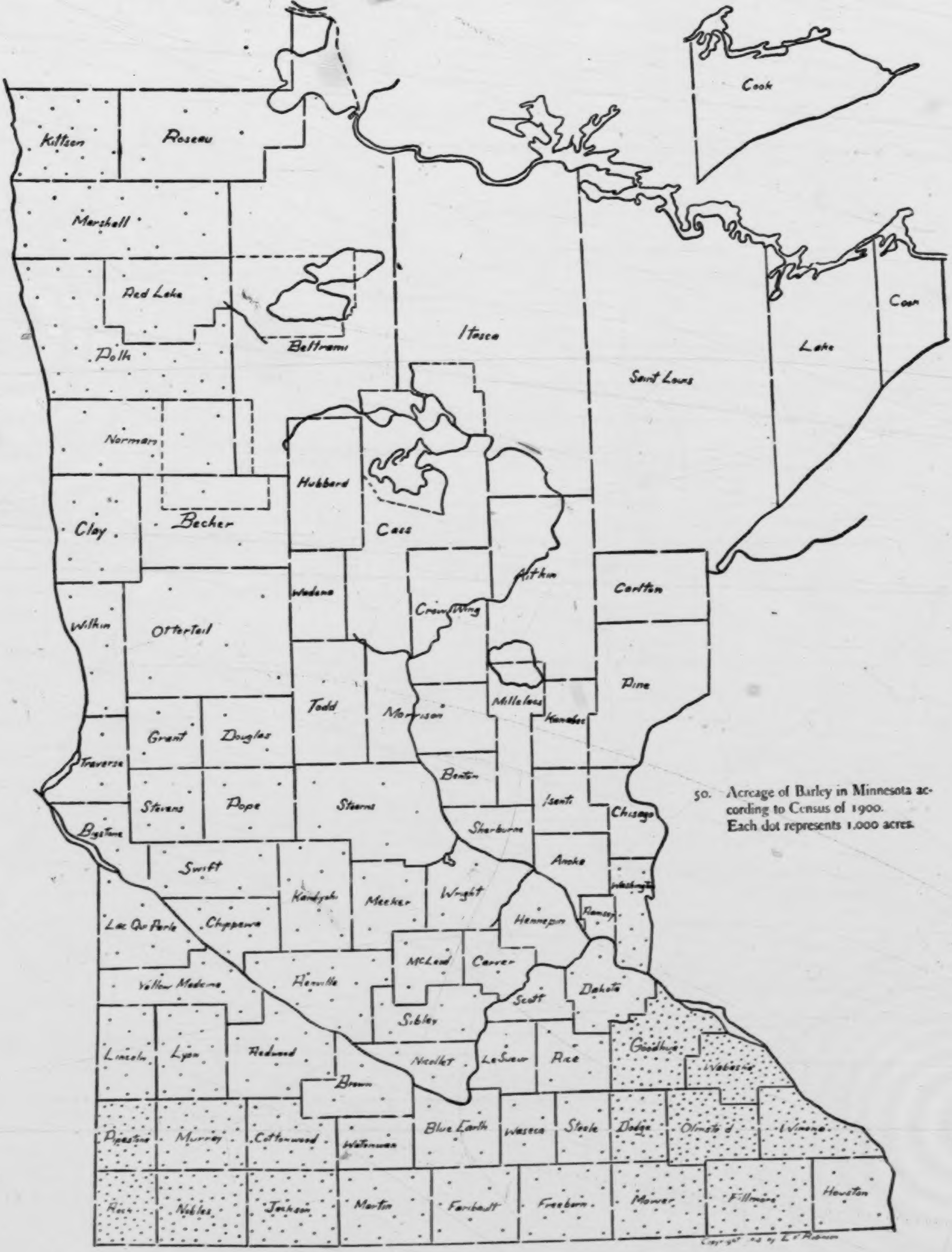
30. Production of Oats in Minnesota according to Census of 1900. Each dot represents 10,000 Bushels.

Figure 138. Production of oats in 1899 according to census of 1900. (Based on Table XIV)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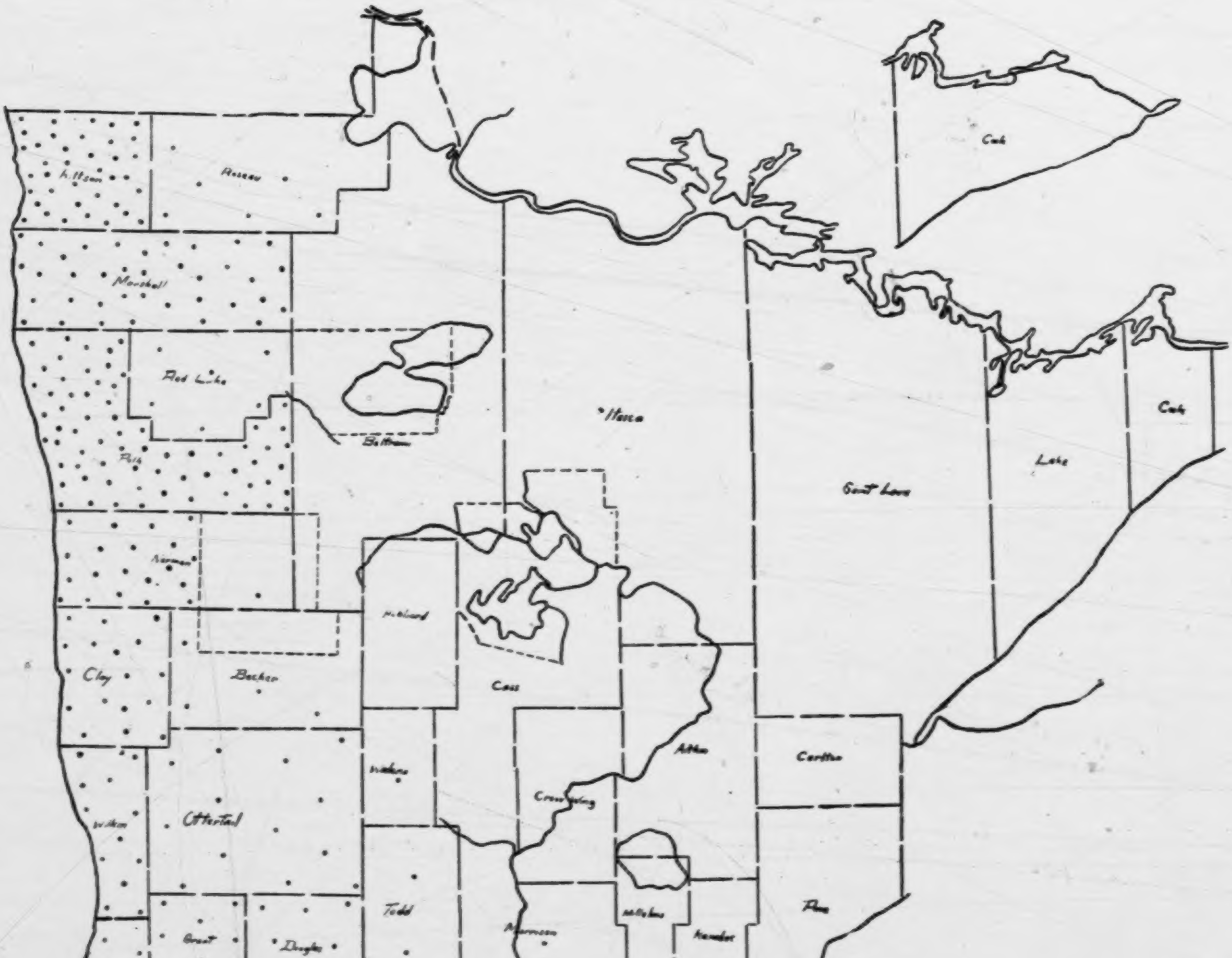
Watonwan
Blue Earth
Waseca
Steele
Dodge
Olmsted
Winona
Rock
Nobles
Jackson
Martin
Faribault
Freeborn
Mower
Fillmore
Houston

50. Acreage of Barley in Minnesota according to Census of 1900.
Each dot represents 1,000 acres.

Figure 139. Acreage of barley in 1899 according to the census of 1900. (Based on Table XVI)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Blue Earth
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Faribault
Freeborn
Mower
Fillmore
Houston

36. Production of Barley in Minnesota according to Census of 1900. Each dot represents 10,000 Bushels.

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Figure 140. Production of barley in 1899 according to census of 1900. (Based on Table XVI)

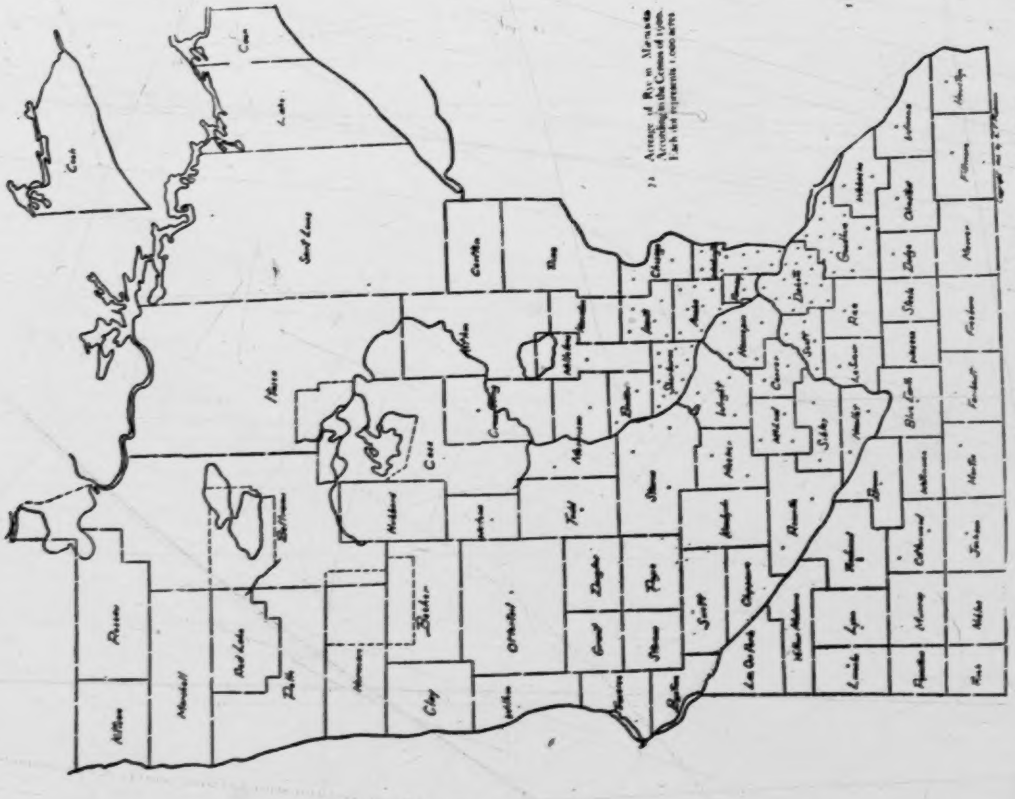

Acreage of Rye in Minnesota According to the Census of 1900. Each dot represents 1,000 acres

Figure 141. Acreage of rye in 1899 according to the census of 1900.
(Based on Table XVII)

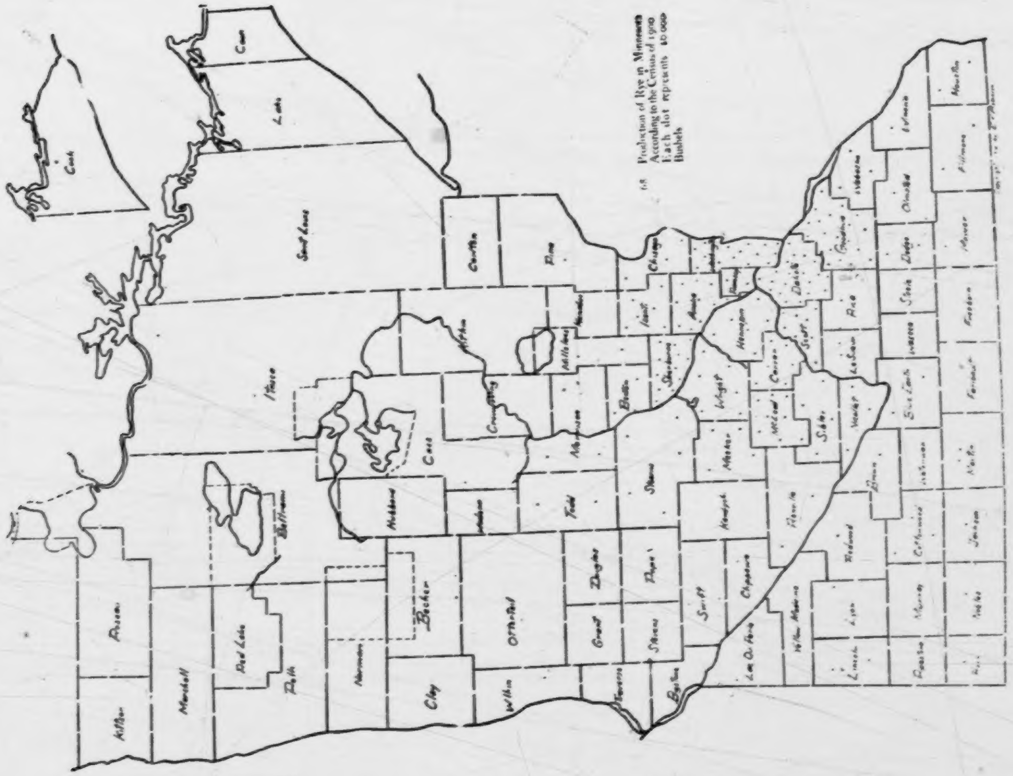
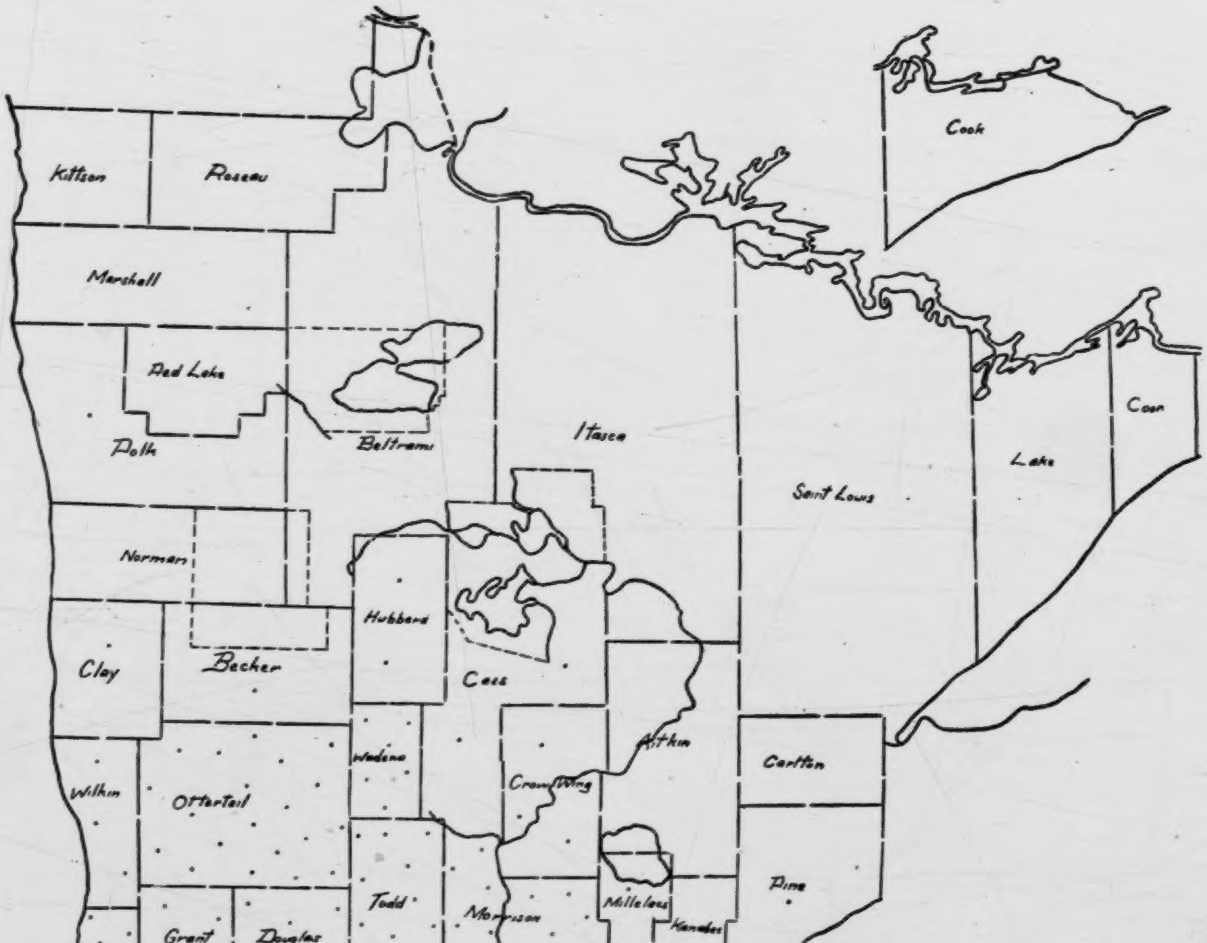

Production of Rye in Minnesota According to the Census of 1900 Each dot represents 10,000 Bushels

Figure 142. Production of rye in 1899 according to the census of 1900.
(Based on Table XVII)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Murray
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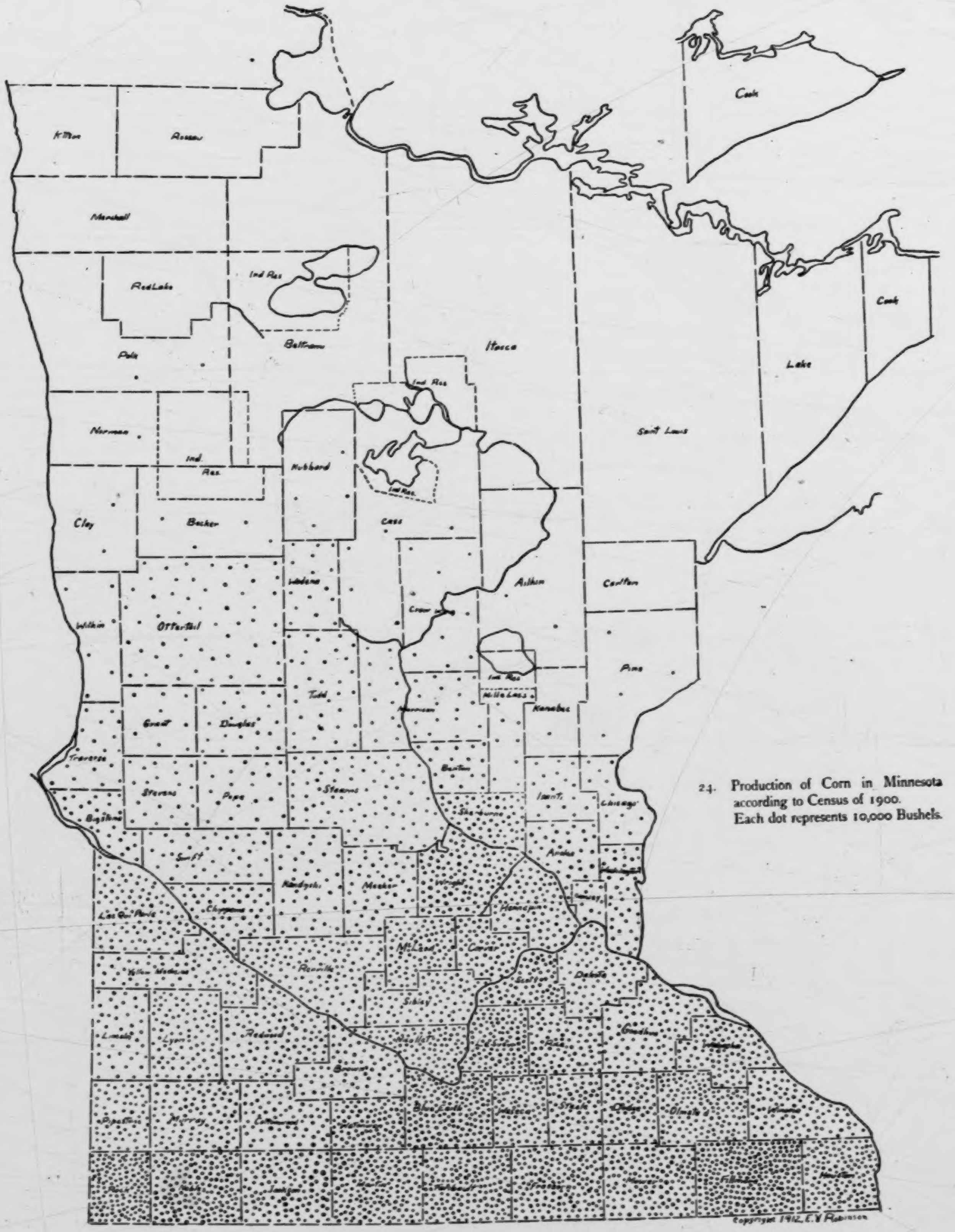
Watonwan
Blue Earth
Waseca
Steele
Dodge
Olmsted
Winona
Rock
Nobles
Jackson
Martin
Faribault
Freeborn
Mower
Fillmore
Houston
54. Acreage of Corn in Minnesota according to Census of 1900.
Each dot represents 1,000 acres.

Figure 143. Acreage of corn in 1899 according to the census of 1900. (Based on Table XV)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Dodge
Olmsted
Winona
Pipestone
Murray
Cottonwood
Watonwan
Jackson
Martin
Faribault
Freeborn
Mower
Fillmore
Houston
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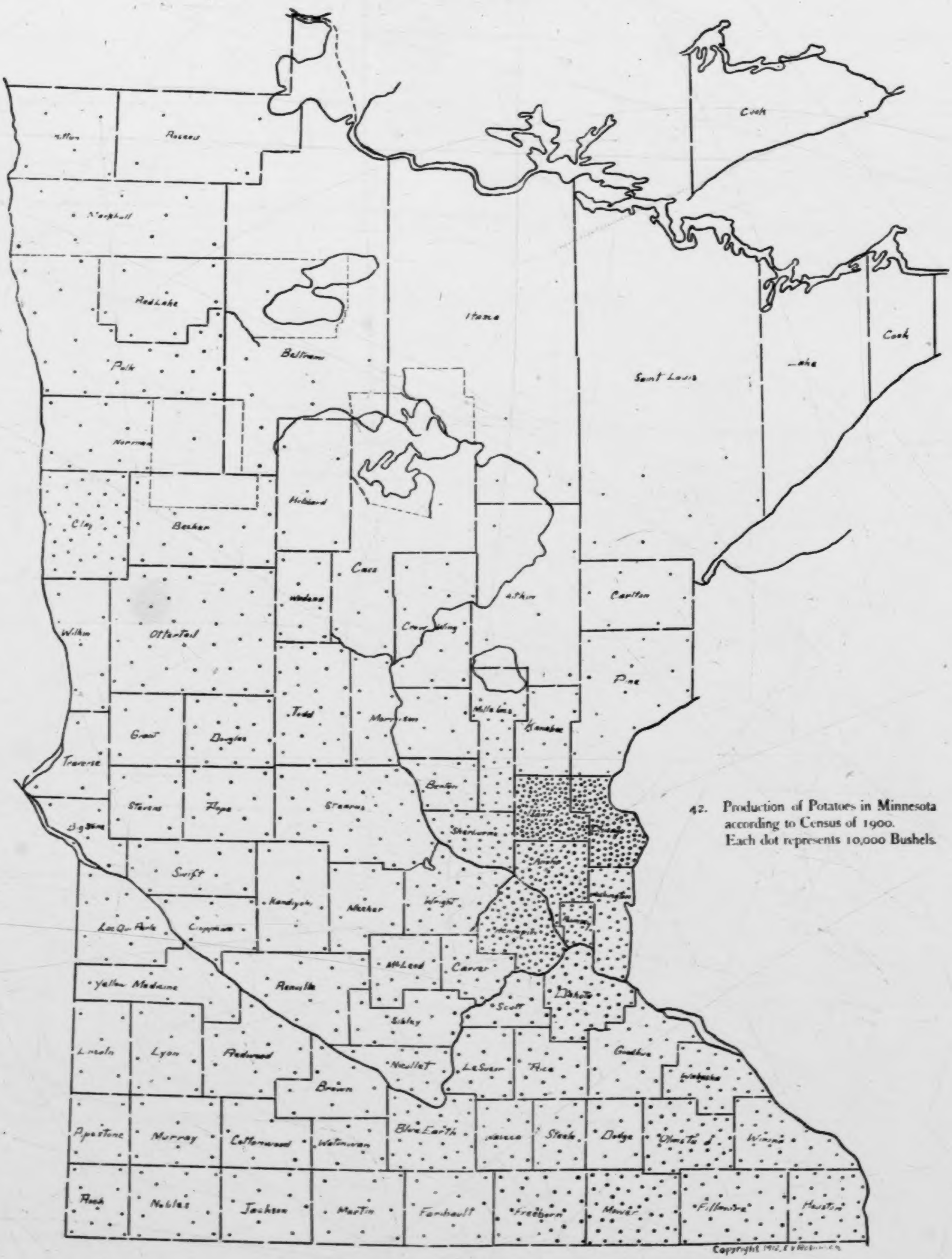
24. Production of Corn in Minnesota according to Census of 1900. Each dot represents 10,000 Bushels.

Figure 144. Production of corn in 1899 according to the census of 1900. (Based on Table XV)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Hubbard
Itasca
Saint Louis
Lake
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Cook
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Wadena
Crow Wing
Aitkin
Carlton
Wilkin
Otter Tail
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Big Stone
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Isanti
Chisago
Anoka
Swift
Kandiyohi
Meeker
Wright
Washington
Lac Qui Parle
Chippewa
Hennepin
Ramsey
McLeod
Carver
Yellow Medicine
Renville
Dakota
Scott
Sibley
Lincoln
Lyon
Redwood
Goodhue
Nicollet
LeSueur
Rice
Wabasha
Brown
Pipestone
Murray
Cottonwood
Watonwan
Blue Earth
Waseca
Steele
Dodge
Olmsted
Winona
Rock
Nobles
Jackson
Martin
Faribault
Freeborn
Mower
Fillmore
Houston

42. Production of Potatoes in Minnesota according to Census of 1900. Each dot represents 10,000 Bushels.

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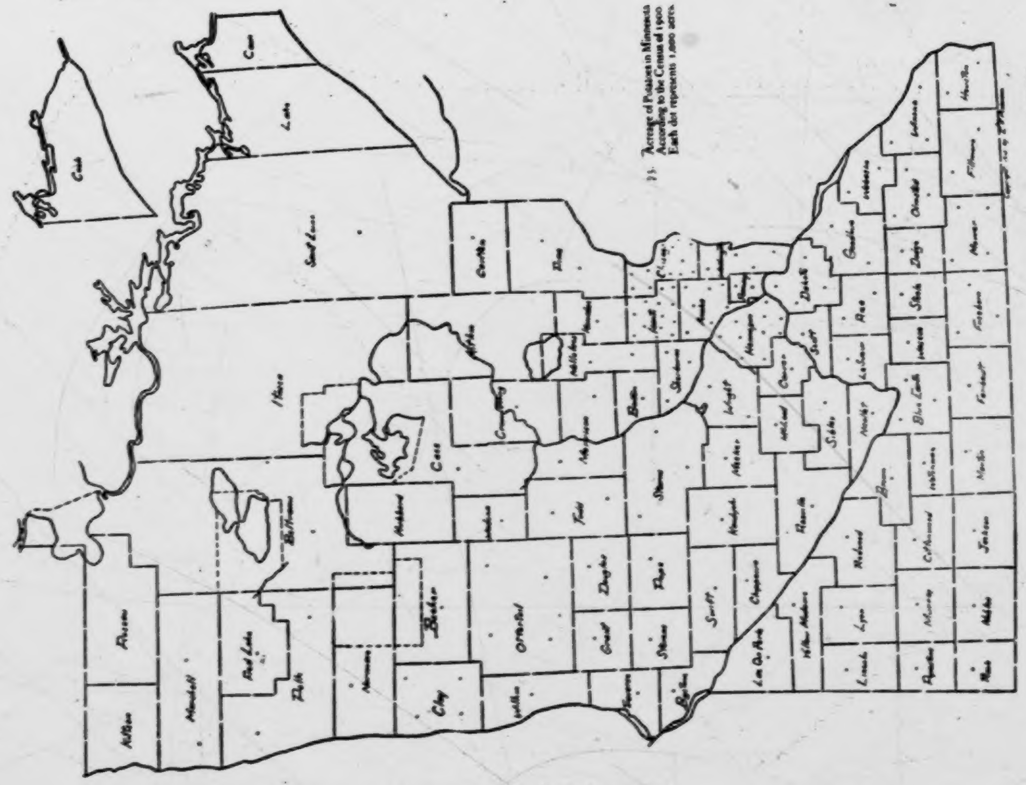
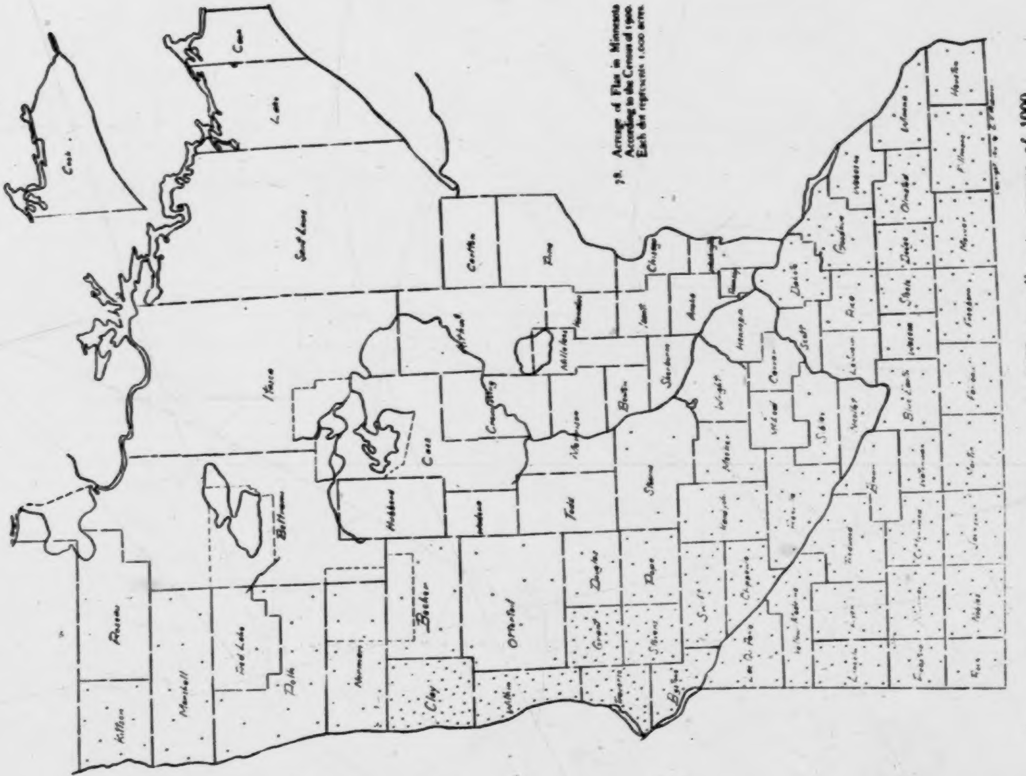
Figure 145. Production of potatoes in 1899 according to the census of 1900. (Based on Table XVIII)



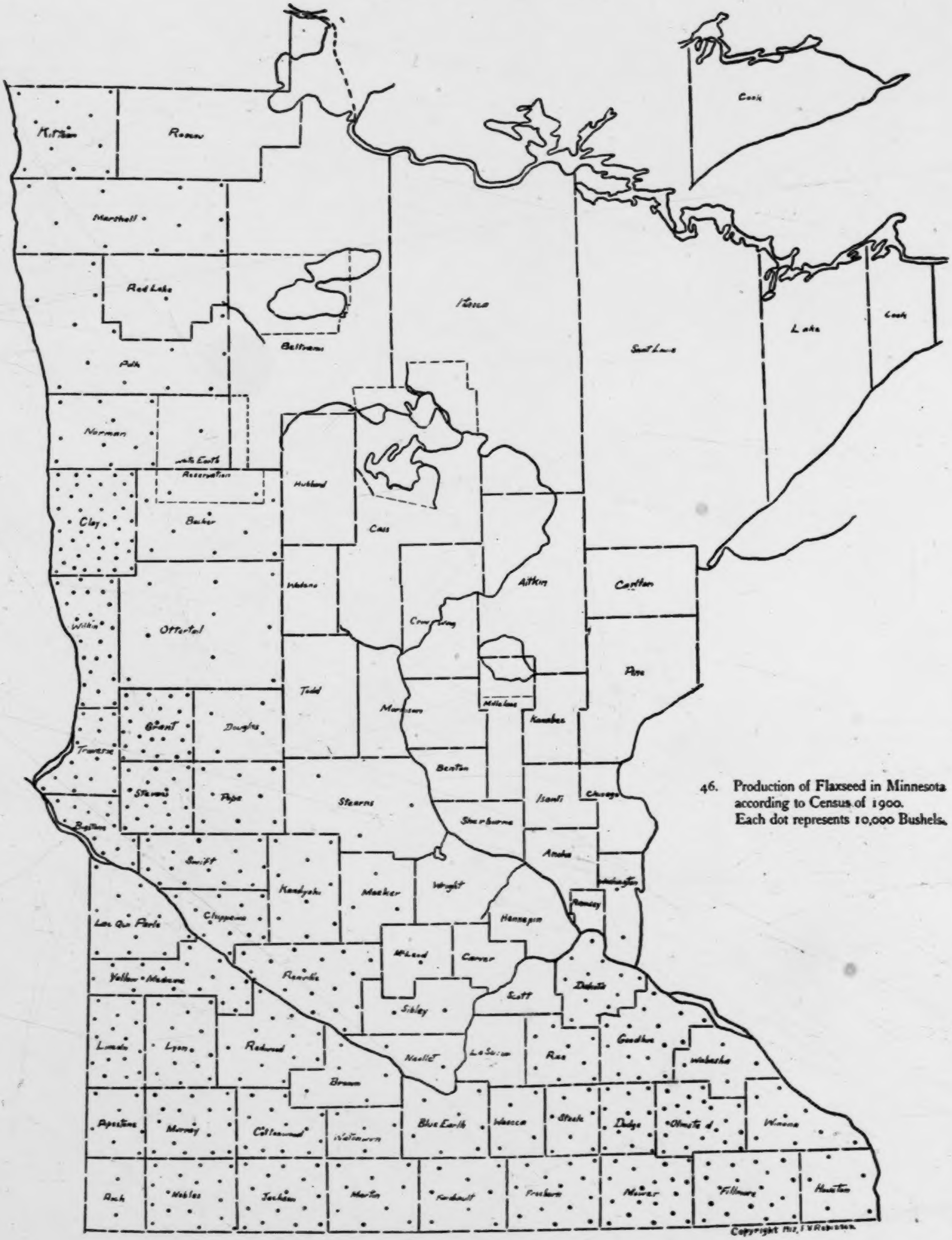
75. Acreage of Potatoes in Minnesota
According to the Census of 1900
Each dot represents 1,000 acres.

Figure 146. Acreage of potatoes in 1899 according to the census of 1900. (Based on Table XVIII)



78. Acreage of Flax in Minnesota
According to the Census of 1900.
Each dot represents 1,000 acres.

Figure 147. Acreage of flax in 1899 according to census of 1900. (Based on Table XIX)


Kittson
Roseau
Cook
Marshall
Red Lake
Itasca
Beltrami
Polk
St Louis
Lake
Cook
Norman
White Earth Reservation
Hubbard
Clay
Becker
Cass
Aitkin
Carlton
Wadena
Wilkin
Ottertail
Crow Wing
Pine
Todd
Morrison
Mille Lacs
Kanabec
Grant
Douglas
Traverse
Benton
Stevens
Pope
Stearns
Isanti
Chisago
Sherburne
Big Stone
Anoka
Swift
Kandiyohi
Meeker
Wright
Washington
Ramsey
Hennepin
Lac Qui Parle
Chippewa
McLeod
Carver
Renville
Yellow Medicine
Scott
Dakota
Sibley
Lincoln
Lyon
Redwood
Nicollet
Le Sueur
Rice
Goodhue
Wabasha
Brown
Pipestone
Murray
Cottonwood
Watonwan
Blue Earth
Waseca
Steele
Dodge
Olmsted
Winona
Rock
Nobles
Jackson
Martin
Faribault
Freeborn
Mower
Fillmore
Houston
Copyright 1912, E V Robinson

46. Production of Flaxseed in Minnesota according to Census of 1900.
Each dot represents 10,000 Bushels.

Figure 148. Production of flaxseed in 1899 according to the census of 1900. (Based on Table XIX)

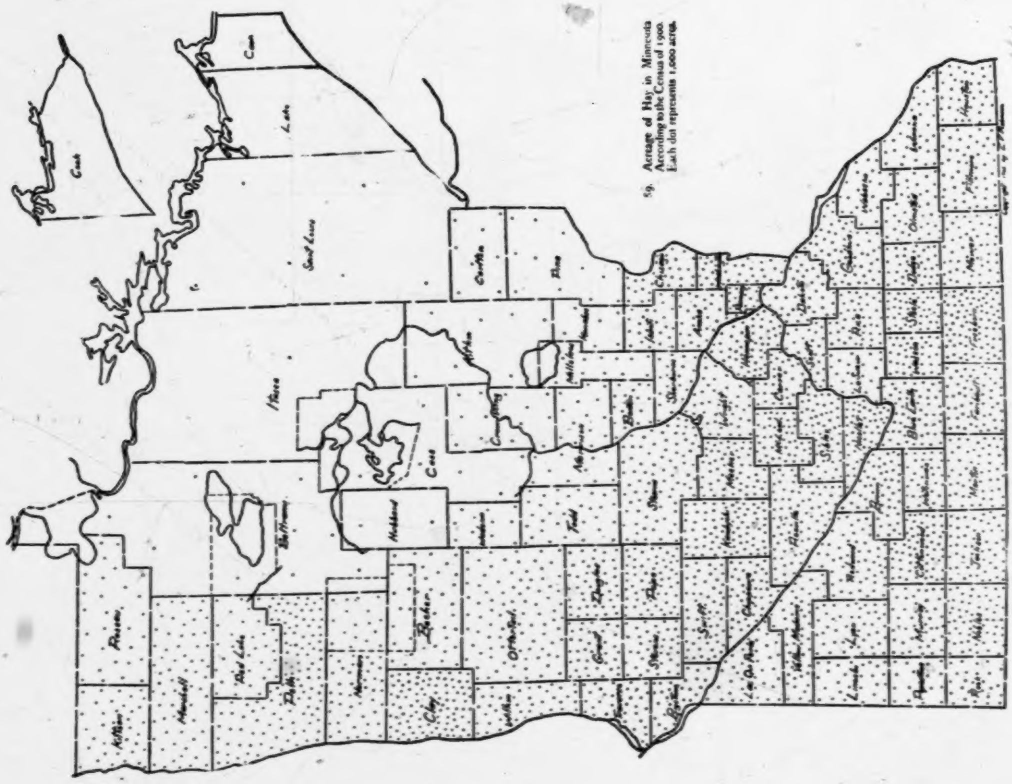

59. Acreage of Hay in Minnesota According to the Census of 1900. Each dot represents 1,000 acres.
Kittson
Roseau
Marshall
Red Lake
Polk
Norman
Clay
Wilkin
Becker
Otter Tail
Grant
Douglas
Stevens
Pope
Traverse
Big Stone
Swift
Chippewa
Lac Qui Parle
Yellow Medicine
Lincoln
Lyon
Redwood
Renville
Kandiyohi
Stearns
Todd
Morrison
Hubbard
Cass
Crow Wing
Aitkin
Itasca
Beltrami
St Louis
Lake
Cook
Carlton
Pine
Mille Lacs
Benton
Sherburne
Isanti
Chisago
Anoka
Wright
Meeker
McLeod
Sibley
Nicollet
Brown
Cottonwood
Murray
Pipestone
Rock
Nobles
Jackson
Martin
Watonwan
Blue Earth
Faribault
Freeborn
Waseca
Le Sueur
Rice
Steele
Dodge
Mower
Fillmore
Olmsted
Winona
Wabasha
Goodhue
Dakota
Scott
Carver
Hennepin
Houston

Figure 149. Acreage of wild and cultivated hay in 1899 according to the census of 1900.

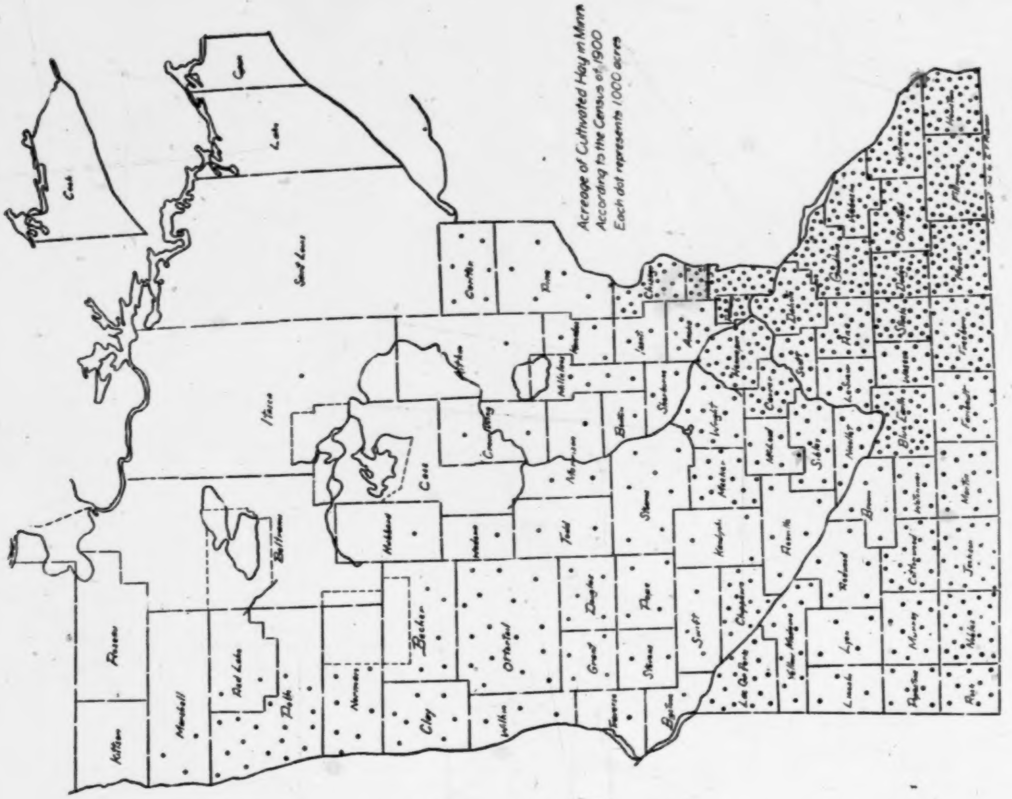

Acreage of Cultivated Hay in Minn According to the Census of 1900 Each dot represents 1000 acres
Kittson
Roseau
Marshall
Red Lake
Polk
Norman
Clay
Wilkin
Becker
Otter Tail
Grant
Douglas
Stevens
Pope
Traverse
Big Stone
Swift
Chippewa
Lac Qui Parle
Yellow Medicine
Lincoln
Lyon
Redwood
Renville
Kandiyohi
Stearns
Todd
Morrison
Wadena
Hubbard
Cass
Crow Wing
Aitkin
Itasca
Beltrami
St Louis
Lake
Cook
Carlton
Pine
Mille Lacs
Benton
Sherburne
Isanti
Chisago
Anoka
Wright
Meeker
McLeod
Sibley
Nicollet
Brown
Cottonwood
Murray
Pipestone
Rock
Nobles
Jackson
Martin
Watonwan
Blue Earth
Faribault
Freeborn
Waseca
Le Sueur
Rice
Steele
Dodge
Mower
Fillmore
Olmsted
Winona
Wabasha
Goodhue
Dakota
Scott
Carver
Hennepin
Houston

Figure 150. Acreage of cultivated hay in 1899 according to census of 1900.

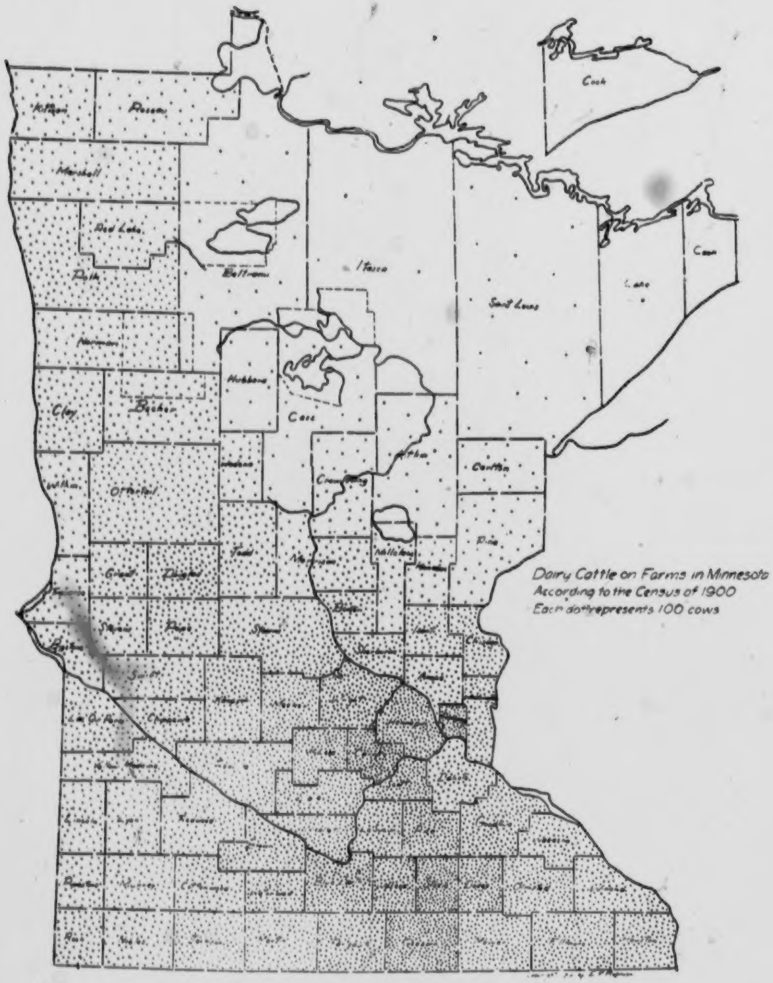

Dairy Cattle on Farms in Minnesota
According to the Census of 1900
Each dot represents 100 cows

Figure 151. Distribution of dairy cows on farms according to the census of 1900. (Based on Table XXIV)

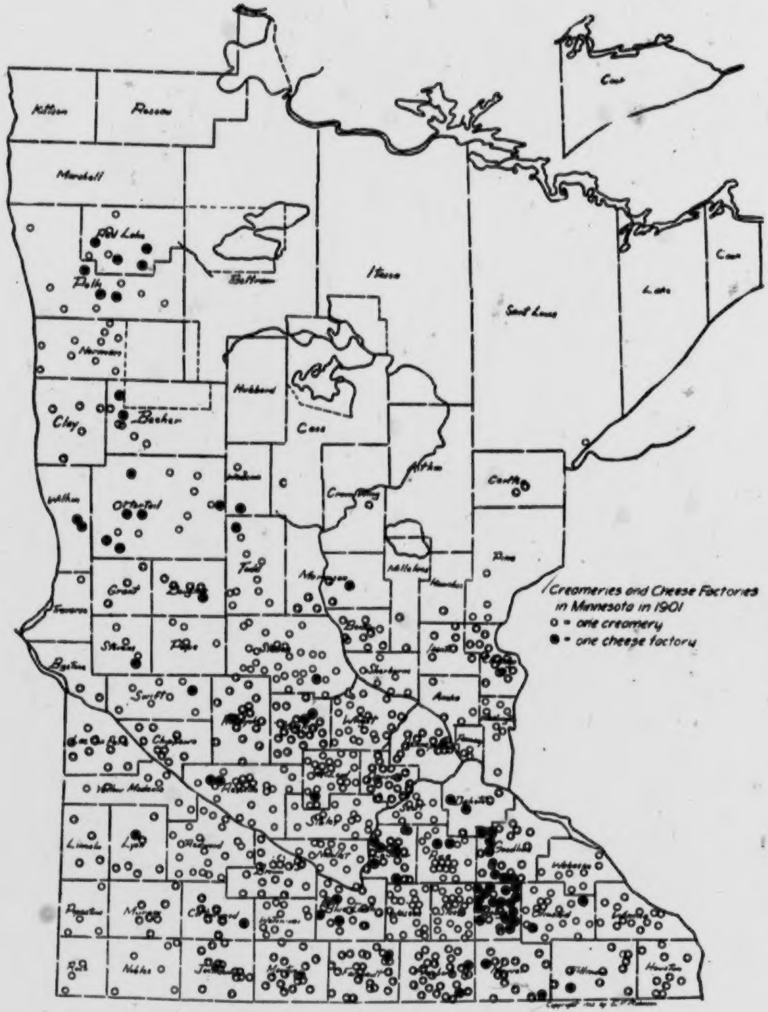

Creameries and Cheese Factories
in Minnesota in 1901
○ = one creamery
● = one cheese factory

Figure 152. Distribution of creameries and cheese factories in 1901.[53]

---

[53] *Biennial Report of Dairy and Food Dept.*, 1903, 16, 38.

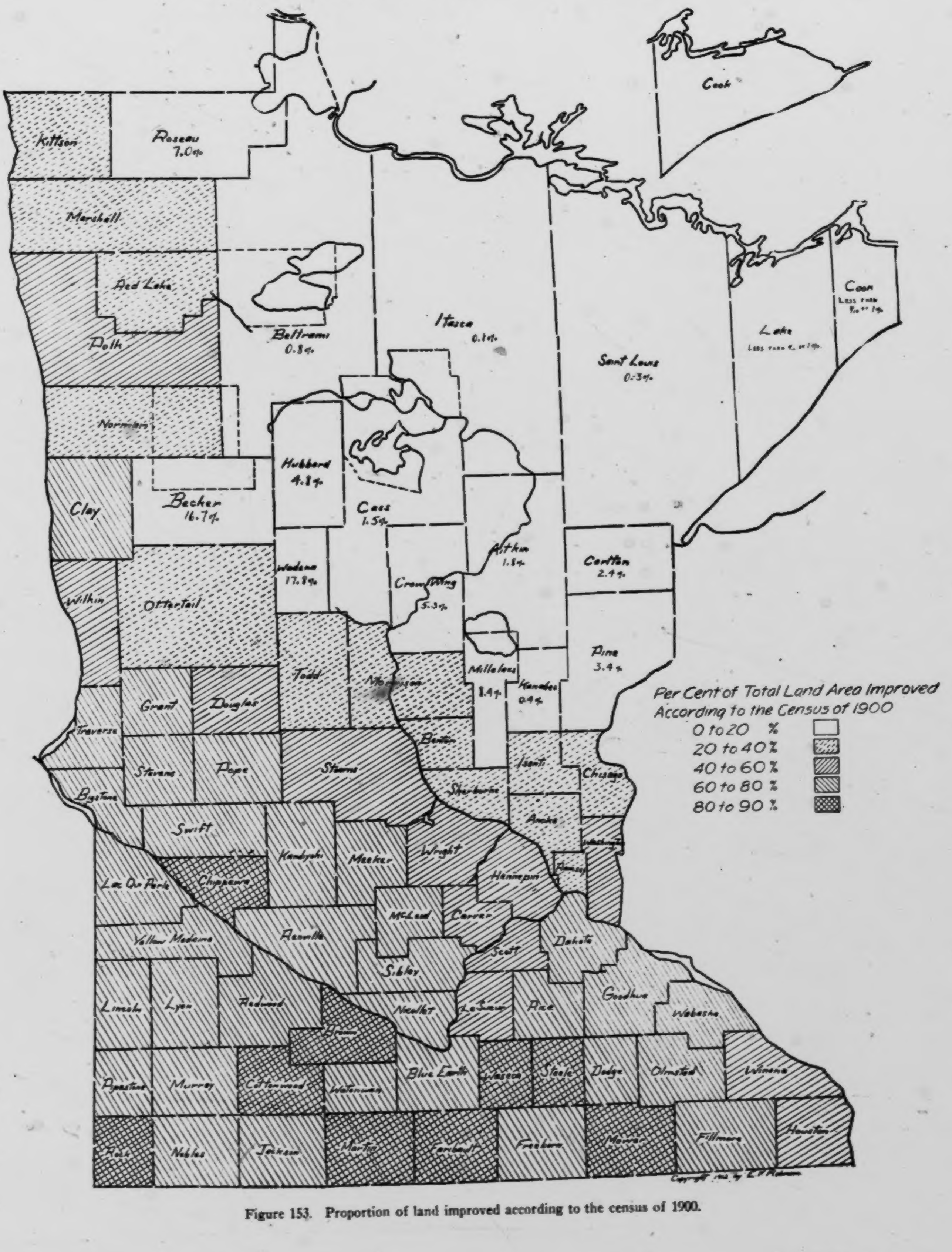

Cook
Kittson
Roseau 7.0%
Marshall
Red Lake
Polk
Beltrami 0.8%
Itasca 0.1%
Saint Louis 0.3%
Lake Less than 1/10 of 1%
Cook Less than 1/10 of 1%
Norman
Clay
Becker 16.7%
Hubbard 4.8%
Cass 1.5%
Aitkin 1.8%
Carlton 2.4%
Wadena 17.8%
Crow Wing 5.3%
Wilkin
Ottertail
Todd
Morrison
Mille Lacs 8.4%
Kanabec 0.4%
Pine 3.4%
Grant
Douglas
Benton
Traverse
Stevens
Pope
Stearns
Isanti
Chisago
Sherburne
Big Stone
Anoka
Swift
Kandiyohi
Meeker
Wright
Washington
Hennepin
Ramsey
Lac Qui Parle
Chippewa
McLeod
Carver
Yellow Medicine
Renville
Scott
Dakota
Sibley
Goodhue
Lincoln
Lyon
Redwood
Nicollet
Le Sueur
Rice
Wabasha
Brown
Pipestone
Murray
Cottonwood
Watonwan
Blue Earth
Waseca
Steele
Dodge
Olmsted
Winona
Rock
Nobles
Jackson
Martin
Faribault
Freeborn
Mower
Fillmore
Houston
Per Cent of Total Land Area Improved
According to the Census of 1900
0 to 20 % ☐
20 to 40 % ▨
40 to 60 % ▨
60 to 80 % ▨
80 to 90 % ▩
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Figure 153. Proportion of land improved according to the census of 1900.

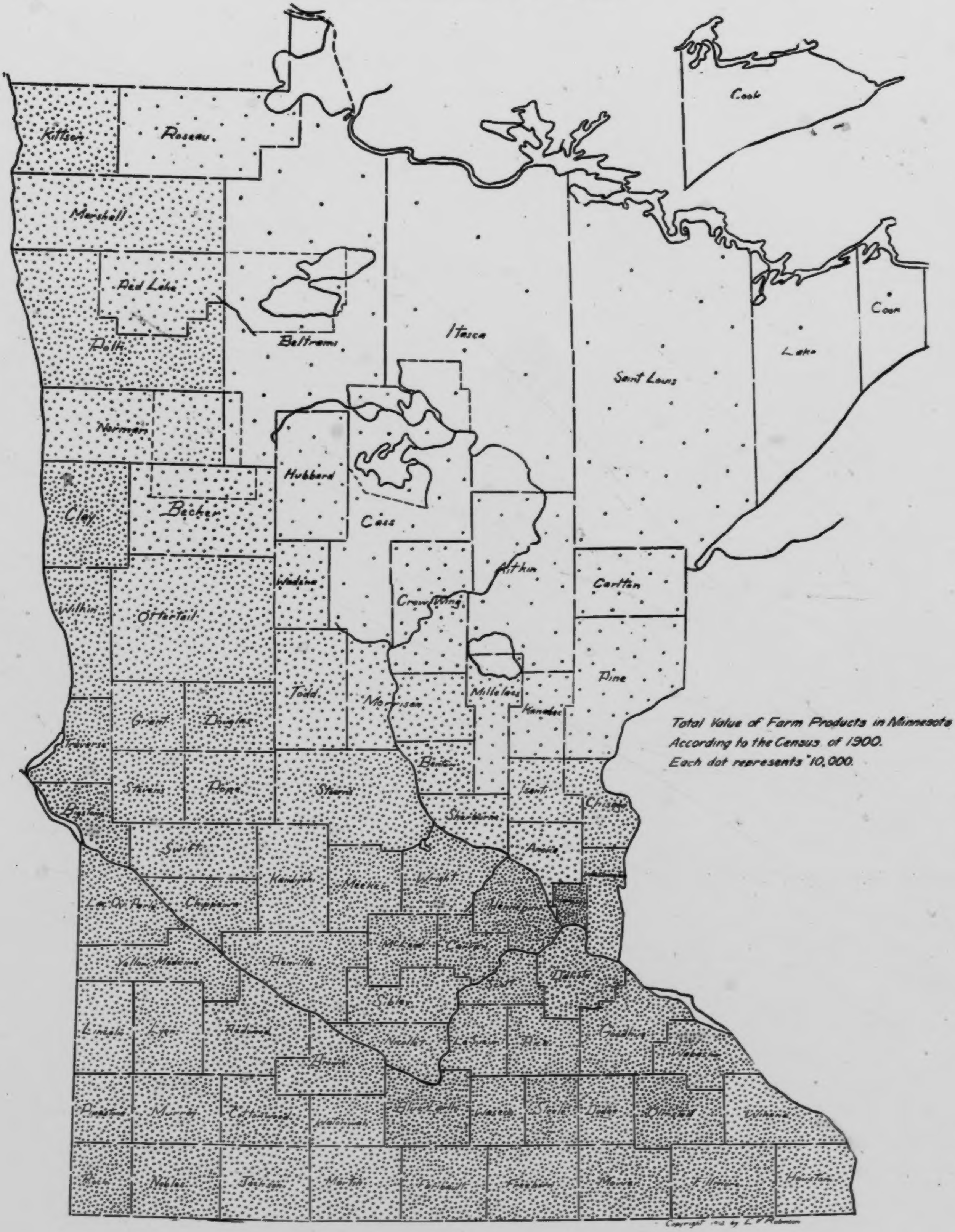
Cook
Kittson
Roseau
Marshall
Red Lake
Polk
Beltrami
Itasca
Saint Louis
Lake
Cook
Norman
Hubbard
Cass
Clay
Becker
Wadena
Crow Wing
Aitkin
Carlton
Wilkin
Ottertail
Todd
Morrison
Mille Lacs
Kanabec
Pine
Grant
Douglas
Traverse
Benton
Stevens
Pope
Stearns
Sherburne
Isanti
Chisago
Big Stone
Swift
Anoka
Kandiyohi
Meeker
Wright
Hennepin
Ramsey
Lac Qui Parle
Chippewa
McLeod
Carver
Yellow Medicine
Renville
Scott
Dakota
Sibley
Lincoln
Lyon
Redwood
Nicollet
Le Sueur
Rice
Goodhue
Wabasha
Brown
Pipestone
Murray
Cottonwood
Watonwan
Blue Earth
Waseca
Steele
Dodge
Olmsted
Winona
Rock
Nobles
Jackson
Martin
Faribault
Freeborn
Mower
Fillmore
Houston
Total Value of Farm Products in Minnesota
According to the Census of 1900.
Each dot represents $10,000.
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Figure 154. Distribution of value of farm products in 1899 according to the census of 1900. (Based on Table XXXV)

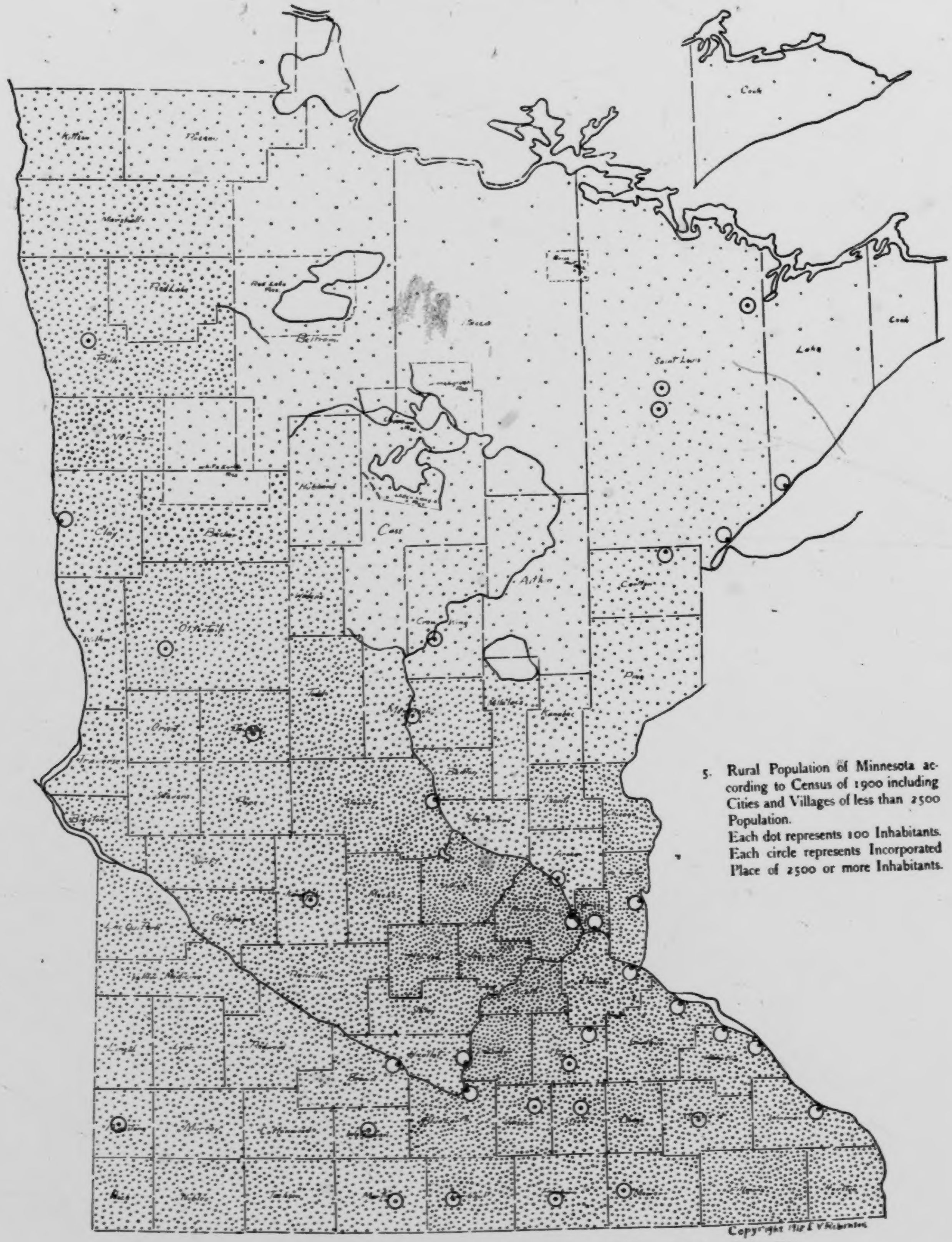
Kittson
Roseau
Marshall
Red Lake
Polk
Beltrami
Itasca
Saint Louis
Lake
Cook
Clay
Becker
Hubbard
Cass
Aitkin
Carlton
Otter Tail
Crow Wing
Pine
Wilkin
Todd
Grant
Traverse
Big Stone
Stevens
Pope
Swift
Lac Qui Parle
Lincoln
Lyon
Murray
Cottonwood
Rock
Nobles
Jackson
Fillmore
Houston
5. Rural Population of Minnesota according to Census of 1900 including Cities and Villages of less than 2500 Population.
Each dot represents 100 Inhabitants.
Each circle represents Incorporated Place of 2500 or more Inhabitants.
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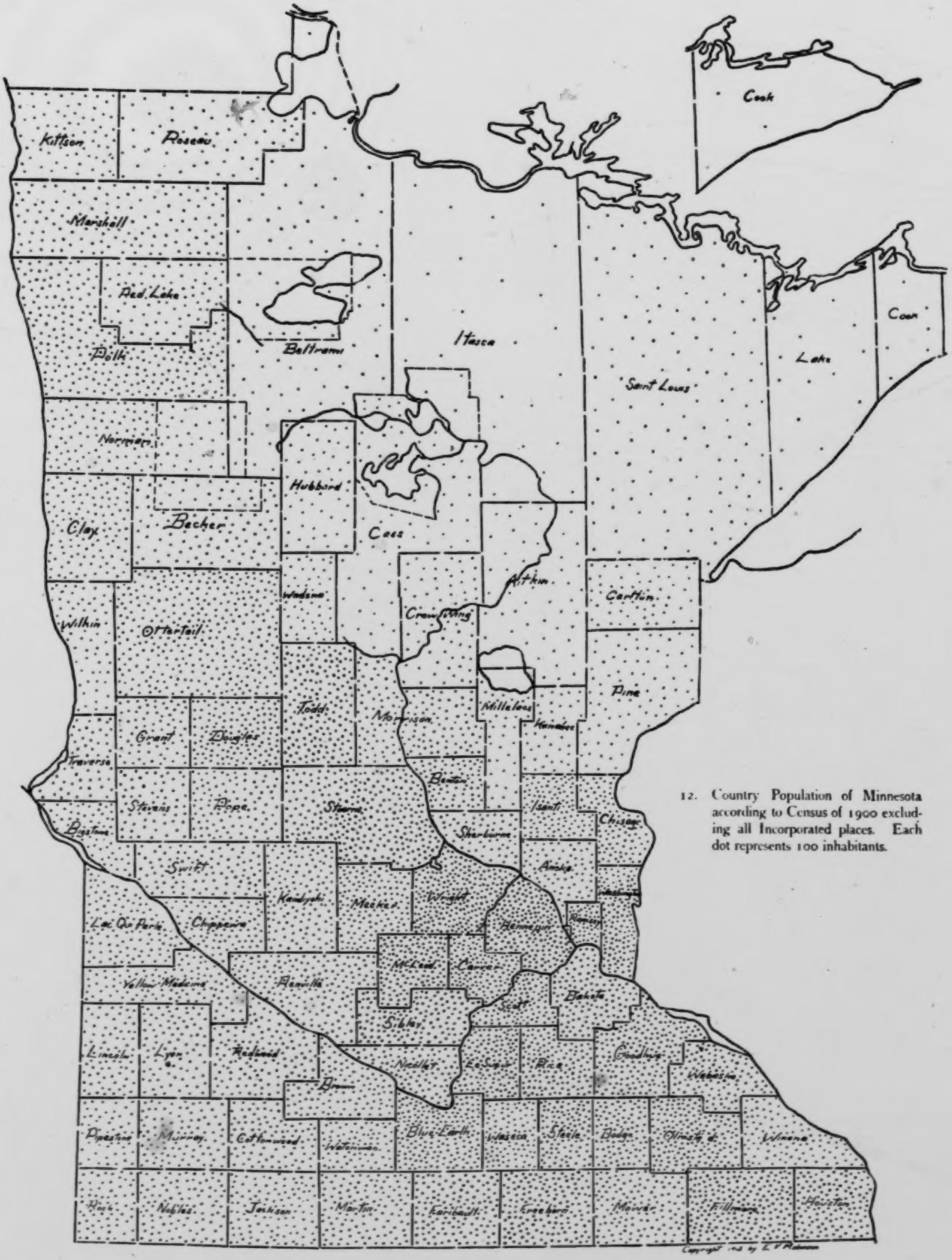
Figure 155. Distribution of population according to the census of 1900. (Based on Table XI)


Cook
Kittson
Roseau
Marshall
Red Lake
Polk
Beltrami
Itasca
Lake
Cook
Saint Louis
Norman
Hubbard
Clay
Becher
Cass
Carlton
Wadena
Aitkin
Crow Wing
Wilkin
Ottertail
Pine
Todd
Morrison
Mille Lacs
Kanabec
Grant
Douglas
Traverse
Benton
Isanti
Chisago
Stevens
Pope
Stearns
Sherburne
Big Stone
Anoka
Swift
Kandiyohi
Meeker
Wright
Washington
Lac Qui Parle
Chippewa
Hennepin
Ramsey
McLeod
Carver
Yellow Medicine
Renville
Dakota
Scott
Sibley
Lincoln
Lyon
Redwood
Nicollet
Le Sueur
Rice
Goodhue
Wabasha
Brown
Pipestone
Murray
Cottonwood
Watonwan
Blue Earth
Waseca
Steele
Dodge
Olmsted
Winona
Rock
Nobles
Jackson
Martin
Faribault
Freeborn
Mower
Fillmore
Houston
Copyright [illegible] by E V Robinson

12. Country Population of Minnesota according to Census of 1900 excluding all Incorporated places. Each dot represents 100 inhabitants.

Figure 156. Population outside incorporated places at census of 1900. (Based on Table XI)

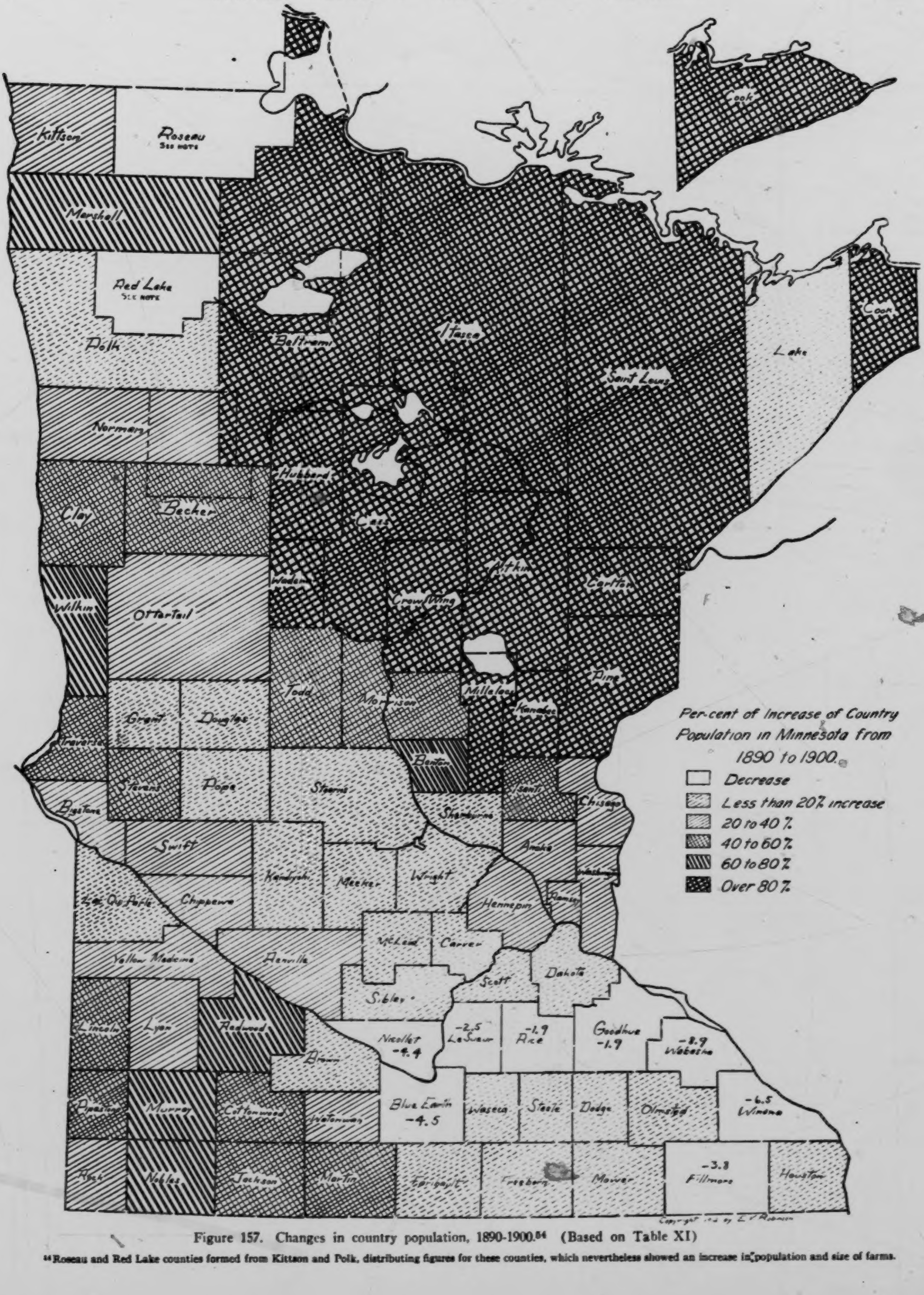

Per-cent of Increase of Country Population in Minnesota from 1890 to 1900.
Decrease
Less than 20% increase
20 to 40%
40 to 60%
60 to 80%
Over 80%
Kittson
Roseau See note
Marshall
Red Lake See note
Polk
Norman
Clay
Becker
Wilkin
Ottertail
Traverse
Grant
Douglas
Big Stone
Stevens
Pope
Swift
Lac Qui Parle
Chippewa
Yellow Medicine
Lincoln
Lyon
Redwood
Pipestone
Murray
Cottonwood
Rock
Nobles
Jackson
Martin
Beltrami
Itasca
Saint Louis
Lake
Cook
Hubbard
Cass
Wadena
Crow Wing
Aitkin
Carlton
Pine
Todd
Morrison
Mille Lacs
Kanabec
Benton
Stearns
Sherburne
Isanti
Chisago
Anoka
Washington
Ramsey
Hennepin
Kandiyohi
Meeker
Wright
McLeod
Carver
Renville
Sibley
Scott
Dakota
Brown
Nicollet -4.4
-2.5 Le Sueur
-1.9 Rice
Goodhue -1.7
-8.9 Wabasha
Watonwan
Blue Earth -4.5
Waseca
Steele
Dodge
Olmsted
-6.5 Winona
Faribault
Freeborn
Mower
-3.8 Fillmore
Houston

Figure 157. Changes in country population, 1890-1900.[64] (Based on Table XI)

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[64] Roseau and Red Lake counties formed from Kittson and Polk, distributing figures for these counties, which nevertheless showed an increase in population and size of farms.

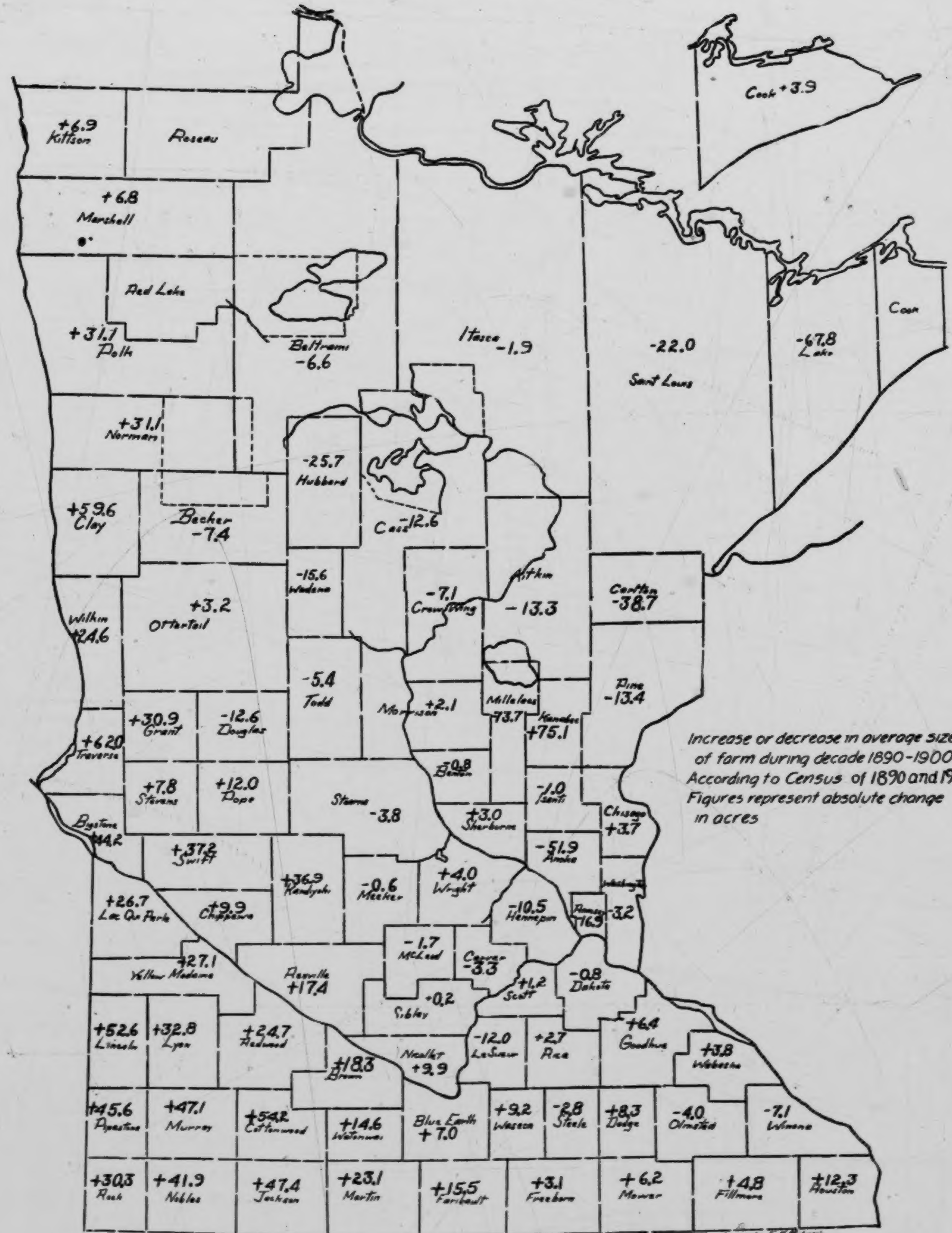
+6.9 Kittson
Roseau
+6.8 Marshall
Red Lake
+31.1 Polk
Beltrami -6.6
Itasca -1.9
-22.0 Saint Louis
Cook +3.9
Coon
-67.8 Lake
+31.1 Norman
-25.7 Hubbard
+59.6 Clay
Becker -7.4
Cass -12.6
-15.6 Wadena
-7.1 Crow Wing
Aitkin -13.3
Carlton -38.7
Wilkin +24.6
+3.2 Ottertail
-5.4 Todd
Morrison +2.1
Mille Lacs -73.7
Kanabec +75.1
Pine -13.4
+30.9 Grant
-12.6 Douglas
+62.0 Traverse
+7.8 Stevens
+12.0 Pope
Stearns -3.8
-0.8 Benton
-1.0 Isanti
+3.0 Sherburne
Chisago +3.7
Big Stone +14.2
+37.2 Swift
+36.9 Kandiyohi
-0.6 Meeker
+4.0 Wright
-51.9 Anoka
Washington -3.2
+26.7 Lac Qui Parle
+9.9 Chippewa
-10.5 Hennepin
Ramsey 16.9
+27.1 Yellow Medicine
Renville +17.4
-1.7 McLeod
Carver -3.3
+0.2 Sibley
+1.2 Scott
-0.8 Dakota
+52.6 Lincoln
+32.8 Lyon
+24.7 Redwood
+18.3 Brown
Nicollet +9.9
-12.0 Le Sueur
+2.7 Rice
+6.4 Goodhue
+3.8 Wabasha
+45.6 Pipestone
+47.1 Murray
+54.2 Cottonwood
+14.6 Watonwan
Blue Earth +7.0
+9.2 Waseca
-2.8 Steele
+8.3 Dodge
-4.0 Olmsted
-7.1 Winona
+30.3 Rock
+41.9 Nobles
+47.4 Jackson
+23.1 Martin
+15.5 Faribault
+3.1 Freeborn
+6.2 Mower
+4.8 Fillmore
+12.3 Houston
Increase or decrease in average size of farm during decade 1890-1900
According to Census of 1890 and 1900
Figures represent absolute change in acres

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Figure 158. Changes in average size of farms from 1890 to 1900.[54] (Based on Table XXXVI)

hand, oats had gained 39.4 per cent, corn 59.9, and barley 144.9 per cent in acreage, all with a larger yield per acre. The same relation obtained in the case of flaxseed, which increased 86.7 per cent in acreage. Potatoes, on the other hand, increased 38.5 per cent in number of acres, but only 31.2 per cent in total production, showing a smaller yield per acre. Measured by the country population, all these crops, except buckwheat, increased materially both their acreage and their yield, giving thus an increased output per man. This result showed a continued gain in technical efficiency of labor, due to a larger amount of machinery and other capital goods per unit of labor. The only decreases, measured by population, were in buckwheat, beans, and certain other very minor crops. Hay and forage (wild and tame), while showing a smaller acreage, gave a larger cut in proportion to the country population, owing in part to a larger proportion of cultivated hay. All kinds of orchard and garden products, so far as the census items are comparable, also gained both absolutely, and relatively to the country population (Items 10-84).

---

[54] Roseau and Red Lake counties formed from Kittson and Polk, distributing figures for these counties, which nevertheless showed an increase in population and size of farms.

All important classes of live stock increased faster than the country population, the greatest relative increase being in swine, next in cattle of all sorts, then in horses, and last in sheep. It is evident that dairy cows also increased, though by reason of different classifications in the two censuses, an exact comparison is not possible. There was likewise a notable increase in poultry, especially chickens, which are frequently associated with dairy farming (Items 85-119).

Animal products naturally showed a corresponding rate of increase, exceeding in most cases the growth of country population. This relation obtained as to milk produced, butter, eggs, and wool, the most striking increases being in eggs and butter, and especially in factory as compared with farm butter. On the other hand, for reasons previously stated (page 113), the production of cheese declined both relatively and absolutely. A similar decrease occurred in the production of honey, probably because of the difficulty of discovering and preventing the sale of adulterated or imitation honey; but it was a curious fact, if fact it was, that while the output of honey declined, there was a larger production of beeswax. Unless bees were being bred to build thicker combs, the presumption is that this discrepancy arose from another inaccuracy in the census (Items 120-144).

Turning now to relative values (Items 145-155), it appears that against an increase of 25.7 per cent in country population, there was a gain of 54.3 per cent in value of live stock, 77.9 per cent in implements, 307.8 per cent in fertilizers purchased, 126.3 per cent in value of all farm products, and 96.9 per cent in value of farms with buildings. The increases in live stock, implements, and fertilizers, of course, go far to explain the increased output per capita of the country population. In the case of wheat, however, there was not only an average yield of a bushel less per acre in 1899, compared to 1889, but also a similar reduction in the market price. It is evident, therefore, that the increased value of products, in so far as not the result of increased acreage, was due to items other than wheat, and presumably in large measure to dairy products.

From 1870 to 1890 increase in land values had outrun value of products (page134); from 1890 to 1900, on the contrary, value of products increased faster than farm values (Items 145, 155). In order to eliminate so far as possible the influence of increased acreage on these changes, the totals in Table 18 are reduced in Table 16 to the acre basis.

TABLE 16.—AGRICULTURAL CHANGES IN MINNESOTA AS A WHOLE FROM 1890-1900

	Value of products per acre of farms	Value of products per acre of improved land	Value of farms* per acre	Value of farms* per acre of improved land	Percentage of total farm land improved	Value of land and improvements other than buildings per acre of farms	Value of land and improvements other than buildings per acre of improved land
1900	$6.14	$8.74	$25.51	$36.30	70.3%	$21.31	$30.33
1890	$3.82	$6.40	$18.22	$30.56	59.6%	......	......
Absolute change	$2.32	$2.34	$7.29	$5.74	10.7%	......	......
Percentage of change	60.8%	36.6%	40.0%	18.8%	18.0%	......	......

From Table 16 it is evident that the value of products increased $2.32, and the value of farms $7.29, per acre of all farm land; while the corresponding figures per acre of improved farm land were $2.34 for products and $5.74 for value of farms. Stated proportionally, the value of products per acre of improved land increased 36.6 per cent, against 18.8 per cent for value of farms, or approximately twice as fast. For the first time since comparison became possible (1870), value of products thus outran value of farms (Fig. 219).

Theoretically, this is what ought to happen under the law of decreasing returns. Once the stage of extensive pioneer agriculture is passed, increased returns per acre are in general won at an increased expense per unit of product. It follows that the ratio of net to gross returns per acre naturally declines as agriculture becomes more intensive; and, consequently, if the rate of interest remains constant, that the capitalized value of such net returns, represented by the value of the land, will usually increase less rapidly than the gross returns per acre.

It may be doubted, however, whether this explanation is fully adequate. In the first place, the question why this relation between value of products and value of farms did not appear sooner presents itself. Certainly it is difficult to believe that the point of increasing expense per unit was not reached prior to 1890. Again, less rather than more labor was being put on each acre, as shown by the increasing acreage of improved land per capita of the country population; though it is of course possible that this movement had gone so far as to encounter decreasing returns per acre, accompanied by increasing returns per man. Further, during the closing part of the decade, prices in general began to advance. This advance would naturally benefit the farmers, since wages move less readily than commodity prices; and it would, therefore, tend to increase rather than decrease the ratio of net to gross farm earnings.

---

*Value of farms includes value of buildings.

In view of these considerations it appears necessary to take account of two other facts which clearly had some bearing on the matter. For one thing, the panic of 1893, and the following depression, destroyed whatever speculative land values there were in 1890. Finally, the turn of the tide shown by the rising level of prices came so late in the decade that the rising value of products had not yet been reflected in the value of farms, as happened in the following decade.

Coincident with this evidence of agricultural prosperity, the percentage of farms operated by owners, which had declined from 90.85 in 1880 to 87.07 in 1890, fell to 82 per cent in 1900.

TABLE 17.—PROGRESS OF AGRICULTURE, 1880-1890, ACCORDING TO THE U. S CENSUS

Items	1880	1890	Percentage of increase or decrease (a minus sign denotes decrease)	Per 100 of the country population	
				1880	1890
I. Population:					
1. Country population	543,193	708,114*	30.4	....	....
2. Town population	237,580	602,169	153.5	....	....
3. Total population	780,773	1,310,283	67.8	....	....
II. Acreage:					
4. Improved land in farms, acres	7,246,693	11,127,953	53.6	1,334.09	1,571.4
4a. Permanent pastures, meadows, orchards and vineyards, acres	1,727,325	(No report)	....	317.99	....
4b. Tilled land including fallows and grass in rotation, acres	5,519,368	(No report)	....	1,016.09	....
5. Unimproved land in farms, acres	6,156,326	7,535,692	22.4	1,133.36	1,064.2
5a. Woodland in farms, acres	2,030,726	(No report)	....	373.85	....
6. Total land in farms, acres	13,403,019	18,663,645	39.2	2,467.45	2,635.7
7. Percentage of land area in farms	25.9	36.1	39.4	....	....
8. Number of farms	92,386	116,851	26.9	17.01	16.5
9. Average size of farms, acres	145.1	159.7	10.1	....	....
10. Average improved land per farm	78.4	95.2	21.5	....	....
11. Percentage of all farm land improved	54.1	59.6	10.2	....	....
III. Farms by size groups:					
12. Under 3 acres, number	36	(No report)	....	.007	....
12a. Under 3 acres, percentage of total	.04	(No report)	....	....	....
12b. Three and under 10, number	604	(No report)	....	.11	....
12c. Three and under 10, percentage of total	.65	(No report)	....	....	....
12d. Total under 10 acres, number	640	812	26.9	.12	.12
12e. Total under 10 acres, percentage of total	.69	.69	0	....	....
12f. Ten and under 20, number	952	1,210	27.1	.18	.17
12g. Ten and under 20, percentage of total	1.03	1.04	1.0	....	....
12h. Twenty and under 50, number	8,003	9,742	21.7	1.47	1.37
12i. Twenty and under 50, percentage of total	8.7	8.3	—4.6	....	....
12j. Fifty and under 100, number	25,530	26,163	2.5	4.7	3.7
12k. Fifty and under 100, percentage of total	27.6	22.4	—18.8	....	....
12l. 100 and under 500, number	56,375	77,048	36.7	10.4	10.9
12m. 100 and under 500, percentage of total	61.0	65.9	8.0	....	....

*The country population for 1890 includes 8,457 persons reported from Indian reservations. The statistics of agriculture for 1890 do not embrace Indian reservations.

Items	1880	1890	Percentage of increase or decrease	Per 100 of the country population	
				1880	1890
12n. 500 and under 1,000, number	741	1,594	115.2	.14	.22
12o. 500 and under 1,000, percentage of total	.81	1.36	67.9	....	....
12p. 1,000 acres and over, number	145	282	94.5	.03	.04
12q. 1,000 acres and over, percentage of total	.16	.24	50.0	....	....
IV. Farm Products:					
13. Wheat, acres	3,044,670	3,372,627	10.8	560.5	476.3
14. Wheat, bushels	34,601,030	52,300,247	51.2	6,369.9	7,385.9
15. Oats, acres	617,469	1,579,258	155.8	113.7	223.0
16. Oats, bushels	23,382,158	49,958,791	113.7	4,304.6	7,055.2
17. Barley, acres	116,020	358,510	209.0	21.4	50.6
18. Barley, bushels	2,972,965	9,100,683	206.1	547.3	1,285.2
19. Rye, acres	13,614	62,869	361.2	2.5	8.9
20. Rye, bushels	215,245	1,252,663	481.9	39.6	176.9
21. Buckwheat, acres	3,677	22,090	502.1	.67	3.1
22. Buckwheat, bushels	41,756	281,705	574.6	7.7	39.6
23. Total, small grains, acres	3,795,450	5,395,354	42.2	698.7	761.9
24. Total, small grains, bushels	61,213,154	112,894,089	84.4	11,269.1	15,942.9
25. Corn, acres	438,737	901,690	105.5	80.8	127.3
26. Corn, bushels	14,831,741	24,696,446	66.5	2,730.5	3,487.6
27. Peas, bushels	6,452	8,965†	38.9	1.2	1.3
28. Beans, bushels	18,587	61,009	228.3	3.4	8.6
29. Irish potatoes, acres	(No report)	105,880	....	....	15.0
30. Irish potatoes, bushels	5,184,676	11,155,707	115.2	954.5	1,575.4
31. Sweet potatoes, acres	(No report)	7	....	....	.001
32. Sweet potatoes, bushels	None	365	....	....	.052
33. Flaxseed, acres	(No report)	303,635	....	....	42.9
34. Flaxseed, bushels	98,689	2,721,987	2,697.7	18.2	384.4
35. Clover seed, bushels	18,003	87,240	384.6	3.3	12.3
36. Grass seed, bushels	30,707	507,459	1,552.6	5.7	71.7
37. Peanuts, acres	(No report)	7	....	....	.001
38. Peanuts, bushels	(No report)	145	....	....	.020
39. Total, bushel crops, bushels	81,402,009	152,133,502	86.9	14,985.8	21,484.3
40. Hay,* acres	1,053,378	2,709,191	157.2	193.9	382.6
41. Hay, tons	1,637,109	3,135,241	91.5	301.4	442.2
42. Tobacco, acres	163	49	—69.9	.03	.007
43. Tobacco, pounds	69,922	23,285	—66.7	12.9	3.3
44. Hops, acres	30	2	—93.4	.006	.0003
45. Hops, pounds	10,928	500	—95.4	2.0	.07
46. Hemp, tons	20	None	....	.004	....
47. Flax straw, tons	(No report)	31,163	....	....	4.4
48. Flax fiber, pounds	497	8,609	1,632.2	.09	1.2
49. Broom corn, acres	(No report)	80	....	....	.011
50. Broom corn, pounds	68,433	42,090	—37.0	12.6	5.9
51. Maple sugar, pounds	76,972	34,917	—54.6	14.2	4.9
52. Maple syrup, gallons	11,407	12,091	6.0	2.1	1.7
53. Sorghum syrup, gallons	543,369	340,792	—37.3	100.0	48.1
54. Sorghum sugar, pounds	190	(No report)	....	.035	....
55. Sorghum, acres	(No report)	3,890	....	....	.54

*Includes wild and cultivated hay.
†In addition 1,288 bushels of cow peas are reported.

Items	1880	1890	Percentage of increase or decrease	Per 100 of the country population	
				1880	1890
56. Market gardening, value of products	$166,030	$612,451†	268.9	$30.57	$86.49
57. Forest products, value	$1,796,260	(No report)	....	$330.68	....
58. Orchard fruits, number of trees bearing	(No report)	215,381	....	....	30.4
59. Orchard fruits, bushels	(No report)	85,603	....	....	12.1
60. Orchard products, value	$121,648	(No report)	....	$22.39	....
61. Nursery trees and plants, acres bearing	(No report)	809	....	....	.11
62. Seed farms, acres planted	(No report)	856	....	....	.12
63. Florists' establishments, area under glass in square feet	(No report)	408,612	....	....	57.7
V. Live Stock on Farms:					
64. Horses	257,282	461,509	79.4	47.3	65.2
65. Mules and asses	9,019	9,511	5.5	1.7	1.3
66. Milch cows	275,545	593,908	115.5	50.7	83.9
67. Working oxen	36,344	32,505	—10.6	6.7	4.6
68. Other cattle	347,161	747,166	115.2	63.9	105.5
69. Sheep	267,598*	399,049	49.1	49.3	56.4
70. Swine	381,415	853,715	123.9	70.2	120.6
71. Total live stock	1,574,364	3,097,363	96.7	289.8	437.4
VI. Poultry on Farms:					
72. Chickens	2,098,824	4,448,831	112.0	386.4	628.3
73. All other poultry	159,561	295,380	85.1	29.4	41.7
74. Turkeys	Not reported separately	151,459	....	....	21.4
75. Geese		69,224	....	....	9.8
76. Ducks		74,697	....	....	10.5
77. Total poultry	2,258,385‡	4,744,211	110.0	415.8	670.0
VII. Animal Products:					
78. Number of fleeces	267,598	312,861	16.9	49.3	44.2
79. Wool, pounds	1,352,124¶	1,945,249	43.9	248.9	274.7
80. Butter made on farms, pounds	19,161,385	34,766,409	81.4	3,527.5	4,909.7
81. Butter made in factories, pounds§	83,450	13,911,095	16,570.0	15.4	1,964.6
82. Total butter, pounds	19,244,835	48,677,504	152.9	3,542.9	6,874.2
83. Cheese made on farms, pounds	523,138	676,642	29.3	96.3	95.6
84. Cheese made in factories, pounds§	462,191	3,615,528	682.3	85.1	510.6
85. Total cheese, pounds	985,329	4,292,170	335.6	181.4	606.2
86. Milk produced on farms	(No report)	182,968,973	....	....	25,838.8
87. Milk sold, gallons	1,504,407	(No report)	....	276.9	....
88. Eggs produced, dozens	8,234,161	20,354,498	147.2	1,515.9	2,874.5
89. Beeswax, pounds	6,552	12,050	83.9	1.2	1.7
90. Honey, pounds	234,054	1,160,390	395.8	43.1	163.9
VIII. Value of:					
91. Farms, including fences and buildings	$193,724,260	$340,059,470	75.5	$35,663.98	$48,023.27
92. Live stock	31,904,821	57,725,683	80.9	6,873.58	8,152.03

*Sheep exclusive of spring lambs.
†Includes value of small fruits.
‡Exclusive of spring hatching.
¶Spring clip of 1880.
§The number of factories reported by the federal census as producing *cheese and butter* was 27 in 1880, and 115 in 1890; while the state statistics reported 49 *cheese factories* in 1880, and 121 *cheese factories* and 152 *creameries* in 1890.

Items	1880	1890	Percentage of increase or decrease	Per 100 of the country population	
				1880	1890
93. Implements and machinery......	13,089,783	16,916,473	29.2	2,409.78	2,388.95
94. Cost of building and repairing fences.....................	1,316,895	(No report)	....	242.43	....
95. Cost of fertilizers purchased......	93,250	61,578	—33.9	17.17	8.70
96. Farm products.................	49,468,951	71,238,230	44.0	9,107.07	10,060.28
IX. Tenure of Farms:					
97. Total number of farms..........	92,386	116,851	26.5	17.0	16.5
98. Cultivated by owners, number...	83,933	101,747	21.2	15.5	14.4
99. Cultivated by owners, percentage of total....................	90.85	87.07	—4.2	....	....
100. Rented for fixed money rental, number....................	1,251	3,421	173.5	.23	.48
101. Rented for fixed money rental, percentage of total...........	1.35	2.93	117.1	....	....
102. Rented for share of products, number.....................	7,202	11,683	62.2	1.33	1.65
103. Rented for share of products, percentage of total...........	7.80	10.00	28.2	....	....

TABLE 18.—PROGRESS OF AGRICULTURE, 1890-1900

Items	1890	1900	Percentage of increase or decrease (a minus sign denotes decrease)	Per 100 of the country population	
				1890	1900
I. Population:					
1. Country population............	708,114*	890,252	25.7	....	....
2. Town population..............	602,169	861,142	43.0	....	....
3. Total population...............	1,310,283	1,751,394	33.7	....	....
II. Acreage:					
4. Improved land................	11,127,953	18,442,585	65.7	1,571.4	2,071.6
5. Unimproved land..............	7,535,692	7,805,913	3.6	1,064.2	876.8
6. Total land in farms............	18,663,645	26,248,498	40.6	2,635.7	2,948.4
7. Number of farms..............	116,851	154,659	32.4	16.5	17.4
7a. Under 3 acres, number...........	(No report)	555	....	....	.1
7b. Under 3 acres, percentage of total farms......................	(No report)	.4	....	....	....
7c. Three and under 10, number......	(No report)	1,994	....	....	.2
7d. Three and under 10, percentage of total farms...................	(No report)	1.3	....	....	....
7e. Total under 10 acres, number....	812	2,549	213.9	.1	.3
7f. Total under 10 acres, percentage of total farms................	.7	1.6	128.6	....	....
7g. Ten and under 20, number.......	1,210	2,254	86.3	.2	.3
7h. Ten and under 20, percentage of total farms.................	1.0	1.5	50.0	....	....
7i. Twenty and under 50, number...	9,742	13,278	36.3	1.4	1.5
7j. Twenty and under 50, percentage of total farms................	8.3	8.6	3.6	....	....
7k. Fifty and under 100, number....	26,163	30,990	18.5	3.7	3.5
7l. Fifty and under 100, percentage of total farms.................	22.4	20.0	—10.7	....	....
7m. 100 and under 175, number......	(No report)	56,785	....	....	6.4
7n. 100 and under 175, percentage of total farms.................	(No report)	36.7	....	....	....
7o. 175 and under 260, number......	(No report)	24,933	....	....	2.8

*The country population for 1890 includes 8,457 persons reported from Indian Reservations. The statistics of agriculture for 1890 do not embrace Indian Reservations.

Items	1890	1900	Percentage of increase or decrease	Per 100 of the country population	
				1890	1900
7p. 175 and under 260, percentage of total farms	(No report)	16.1	....	....	....
7q. 260 and under 500, number	(No report)	20,540	....	....	2.3
7r. 260 and under 500, percentage of total farms	(No report)	13.3	....	....	....
7s. Total 100 and under 500, number	77,048	102,258	32.8	10.9	11.5
7t. Total 100 and under 500, percenage of total farms	65.9	66.1	.3	....	....
7u. 500 and under 1,000, number	1,594	2,965	86.0	.2	.3
7v. 500 and under 1,000, percentage of total farms	1.4	1.9	35.7	....	....
7w. 1,000 and over, number	282	365	29.5	.04	.04
7x. 1,000 and over, percentage of total farms	.2	.2	....	....	....
7y. Percentage of all farm land improved	59.6	70.3	18.0	....	....
7z. Percentage of total land area in farms	36.1	50.7	40.5	....	....
8. Average size of farms, acres	159.7	169.7	6.3	....	....
9. Average improved land per farm, acres	95.2	119.2	25.3	....	....
III. Farm Products:					
10. Wheat, acres	3,372,627	6,560,707	99.5	476.3	736.9
11. Wheat, bushels	52,300,247	95,278,660	82.2	7,385.9	10,702.4
12. Oats, acres	1,579,258	2,201,325	39.4	223.0	247.3
13. Oats, bushels	49,958,791	74,054,150	48.2	7,055.2	8,318.3
14. Barley, acres	358,510	877,845	144.9	50.6	98.6
15. Barley, bushels	9,100,683	24,314,240	167.2	1,285.2	2,731.2
16. Rye, acres	62,869	118,869	89.1	8.9	13.4
17. Rye, bushels	1,252,663	1,866,150	49.0	176.9	209.6
18. Buckwheat, acres	22,090	6,700	—69.7	3.1	.8
19. Buckwheat, bushels	281,705	82,687	—70.7	39.6	9.3
20. Total, small grains, acres	5,395,354	9,765,446	81.0	761.9	1,096.9
21. Total, small grains, bushels	112,894,089	195,595,887	73.3	15,942.9	21,970.8
22. Corn, acres	901,690	1,441,580	59.9	127.3	161.9
23. Corn, bushels	24,696,446	47,256,920	91.4	3,487.6	5,308.3
24. Peas, acres	(No report)	670	....	....	.08
25. Peas, bushels	8,965†	9,021	.6	1.3	1.0
26. Beans, acres	(No report)	3,290	....	....	.4
27. Beans, bushels	61,009	36,317	—40.4	8.6	4.1
28. Irish potatoes, acres	105,880	146,659	38.5	15.0	16.5
29. Irish potatoes, bushels	11,155,707	14,643,327	31.2	1,575.4	1,644.8
30. Sweet potatoes, acres	7	4	—42.9	.001	.0005
31. Sweet potatoes, bushels	365	136	—62.8	.052	.015
32. Flaxseed, acres	303,635	566,801	86.7	42.9	63.7
33. Flaxseed, bushels	2,721,987	5,895,479	112.9	384.4	662.2
34. Clover seed, bushels	87,240	8,034	—90.8	12.3	.9
35. Grass seed, bushels	507,459	553,939	9.2	71.7	62.2
36. Peanuts, acres	7	None	....	.001	....
37. Peanuts, bushels	145	None	....	.020	....
38. Total, bushel crops, bushels	152,133,502	263,999,060	73.5	21,484.3	29,654.4

†In addition 1,288 bushels of cow peas are reported.

Items	1890	1900	Percentage of increase or decrease	Per 100 of the country population	
				1890	1900
Hay and Forage Crops:					
39. Wild salt and prairie grasses, acres.	(No report)	2,196,623	....	....	246.7
39a. Wild salt and prairie grasses, tons.	(No report)	2,842,243	....	....	319.3
40. Millet and Hungarian grass, acres.	(No report)	58,339	....	....	6.6
41. Millet and Hungarian grass, tons.	(No report)	93,954	....	....	10.6
42. Alfalfa, acres	(No report)	658	....	....	.07
43. Alfalfa, tons	(No report)	1,781	..	....	.20
44. Clover, acres	(No report)	74,669	....	....	8.4
45. Clover, tons	(No report)	128,767	....	....	14.5
46. Other tame and cultivated grasses, acres	(No report)	754,246	....	....	84.7
47. Other tame and cultivated grasses, tons	(No report)	1,114,459	....	....	125.2
48. Total cultivated hay, acres	(No report)	887,912	....	....	99.7
49. Total cultivated hay, tons	(No report)	1,338,961	....	....	150.4
50. Grains cut green for hay, acres	(No report)	26,304	....	....	3.0
51. Grains cut green for hay, tons	(No report)	45,633	....	....	5.1
52. Forage crops sown for forage, acres	(No report)	46,851	....	....	5.3
53. Forage crops sown for forage, tons.	(No report)	112,500	....	....	12.6
54. Corn stalks, tons	(No report)	72,339	....	....	8.1
55. Total hay and forage, acres	2,709,191	3,157,690	16.5	382.6	354.7
56. Total hay and forage,* tons	3,135,241	4,339,337	38.4	442.2	487.4
57. Tobacco, acres	49	117	138.9	.007	.01
58. Tobacco, pounds	23,285	127,730	448.5	3.3	14.3
59. Hops, acres	2	Less than 1 acre	....	.0003	Less than .0001
60. Hops, pounds	500	51	—89.8	.07	.006
61. Flax fiber, pounds	8,609	(No report)	....	1.2	....
62. Flax straw, tons	31,163	(No report)	....	4.4	....
63. Broom corn, acres	80	149	86.2	.011	0.17
64. Broom corn, pounds	42,090	76,960	82.8	5.9	8.6
65. Maple sugar, pounds	34,917	29,580	—15.3	4.9	3.3
66. Maple syrup, gallons	12,091	1,079	—91.1	1.7	.12
67. Sorghum syrup, gallons	340,792	157,605	—53.8	48.1	17.7
68. Sorghum cane sold for sugar making, tons	593	1,232	107.8	.08	.14
69. Sorghum, acres	3,890	2,283	—41.3	.54	.25
70. Sorghum, product in tons	(No report)	14,369	....	....	1.6
71. Market gardening, value of products	$612,451	(No report)	....	$86.49	....
72. Forest products, value	(No report)	$2,602,335	....	....	$292.32
73. Orchard trees, number bearing	215,381	1,096,444†	409.1	30.4	123.2
74. Orchard fruits, bushels	85,603	143,655	67.8	12.1	16.1
75. Orchard products, value	(No report)	$109,050	....	....	$12.25
76. Nursery trees and plants, acres bearing	809	1,127	39.3	.11	.13
77. Seed farms, acres planted	856	(No report)	....	.12	....
78. Florists' establishments, area under glass, square feet	408,612	889,986	117.8	57.7	99.9
79. Small fruits, acres	(No report)	3,092	....	....	.35
80. Small fruits, quarts	(No report)	4,542,640	....	....	510.2
81. Small fruits, value	(No report)	$339,569	....	....	$38.14

*Exclusive of corn stalks.
†Apparently includes young trees not yet bearing.

Items	1890	1900	Percentage of increase or decrease	Per 100 of the country population	
				1890	1900
82. Grapes, number of vines	(No report)	138,175	....	....	15.6
83. Grapes, pounds	(No report)	573,272	....	....	64.4
84. Grapes, value of product (including raisins and wine)	(No report)	$15,593	....	....	$1.75
IV. Live Stock on Farms:					
85. Horses, number	461,509	696,469	50.9	65.2	78.2
86. Horses, value	(No report)	$42,255,044	....	....	$4,746.41
87. Mules and asses, number	9,511	8,500	—10.7	1.3	.96
88. Mules and asses, value	(No report)	$498,055	....	....	$55.95
89. Milch cows	593,908	(No report)	....	83.9	....
90. Working oxen	32,505	(No report)	....	4.6	....
91. Cattle, other than milch cows and working oxen	747,166	(No report)	....	105.5	....
92. Calves under 1 year, number	(No report)	565,994	....	....	63.6
93. Calves under 1 year, value	(No report)	$4,254,414	....	....	$477.89
94. Steers, number	(No report)	229,423	....	....	25.8
95. Steers, value	(No report)	$4,289,461	....	....	$481.82
96. Bulls 1 year and over, number	(No report)	42,549	....	....	4.8
97. Bulls 1 year and over, value	(No report)	$1,202,197	....	....	$135.04
98. Heifers 1 year and under 2 years, number	(No report)	211,162	....	....	23.8
99. Heifers 1 year and under 2 years, value	(No report)	$3,299,865	....	....	$370.67
100. Dairy cows 2 years and over, number	(No report)	753,632	....	....	84.7
101. Dairy cows 2 years and over, value	(No report)	$21,513,337	....	....	$2,416.55
102. Other cows 2 years and over, number	(No report)	68,565	....	....	7.7
103. Other cows 2 years and over, value	(No report)	$1,689,684	....	....	$189.80
104. Total neat cattle, number	1,373,579	1,871,325	36.2	194.0	210.2
105. Total neat cattle, value	(No report)	$36,248,958	....	....	$4,071.76
106. Sheep, number	399,049	589,878	47.8	56.4	66.3
107. Sheep, value	(No report)	$1,740,088	....	....	$195.46
108. Goats, number	(No report)	3,821	....	....	.44
109. Goats, value	(No report)	$12,908	....	....	$1.45
110. Swine, number	853,715	1,440,806	68.8	120.6	161.8
111. Swine, value	(No report)	$5,865,590	....	....	$658.87
112. Total live stock, number	3,097,363	4,610,799	48.9	437.4	517.9
113. Total live stock, value	(No report)	$86,620,643	....	....	$9,729.90
V. Poultry on Farms:					
114. Chickens	4,448,831	7,730,940	73.8	628.3	868.4
115. Turkeys	151,459	193,143	27.5	21.4	21.7
116. Geese	69,224	90,975	31.4	9.8	10.2
117. Ducks	74,697	127,635	70.8	10.5	14.3
118. Total poultry, number	4,744,211‡	8,142,693†	71.6	670.0	914.6
119. Total poultry, value	(No report)	$2,274,649	....	....	$255.51
VI. Animal Products:					
120. Number of fleeces of wool shorn	312,861	376,009	20.2	44.2	42.2
121. Wool, pounds	1,945,249	2,612,737*	34.3	274.7	293.5

*Weight in pounds of unwashed fleeces.
†Includes only fowls three months and over.
‡Exclusive of spring hatching.

Items	1890	1900	Percentage of increase or decrease	Per 100 of the country population	
				1890	1900
122. Wool, value	(No report)	$460,305	....	....	$51.71
123. Mohair, fleeces shorn	(No report)	350	....	....	.04
124. Mohair, pounds	(No report)	556	....	....	.06
125. Mohair, value	(No report)	$180	....	....	$0.02
126. Butter, pounds made on farms	34,766,409	41,188,846	18.5	4,909.7	4,626.7
127. Butter, pounds sold from farms	(No report)	22,376,084	....	....	2,513.5
128. Butter, pounds made in factories§	13,911,095	41,174,469	196.0	1,964.6	4,625.0
129. Total butter, pounds	48,677,504	82,363,315	69.2	6,874.2	9,251.7
130. Cheese, pounds made on farms	676,642	290,623	—57.0	95.6	32.6
131. Cheese, pounds sold from farms	(No report)	227,878	....	....	25.6
132. Cheese, pounds made in factories§	3,615,528	3,285,019	—9.1	510.6	369.0
133. Total cheese, pounds	4,292,170	3,575,642	—16.7	606.2	401.6
134. Milk, gallons produced	182,968,973	304,017,106	66.2	25,838.8	34,149.6
135. Milk, gallons sold	(No report)	103,768,172	....	....	11,656.0
136. Cream, gallons sold	(No report)	1,205,845	....	....	135.4
137. Dairy products, value of all	(No report)	$16,623,460	....	....	$1,867.28
138. Dairy products, value of those consumed on farms	(No report)	$5,508,769	....	....	$618.79
139. Eggs produced, number in dozens	20,354,498	43,208,130	112.3	2,874.5	4,853.5
140. Poultry raised, value of	(No report)	$2,927,717	....	....	$328.87
141. Bees, swarms	(No report)	45,877	....	....	5.2
142. Bees, value	(No report)	$167,280	....	....	$18.79
143. Beeswax pounds	12,050	20,626	71.2	1.7	2.3
144. Honey, pounds	1,160,390	986,446	—14.9	163.9	110.8
VII. Value of:					
145. All farm property	$414,701,626	$788,684,642	90.6	$58,564.25	$88,591.17
146. Land and improvements (minus buildings)	(No report)	$559,301,900	....	....	$62,825.12
147. Buildings	(No report)	$110,220,415	....	....	$12,380.81
148. Farms, including buildings	$340,059,470	$669,522,315	96.9	$48,023.27	$75.205.93
149. Implements and machinery	$16,916,473	$30,099,230	77.9	$2,388.95	$3,380.98
150. Live stock	$57,725,683	$89,063,097	54.3	$8,152.03	$10,004.26
151. Fertilizers purchased	$61,578	$251,120	307.8	$8.70	$28.21
152. Wages paid	(No report)	$16,657,820	....	....	$1,871.14
153. Value of products fed to live stock	(No report)	$33,257,480	....	....	$3,735.74
154. Value of products not fed	(No report)	$127,959,824	....	....	$14,373.44
155. Total value of farm products	$71,238,230	$161,217,304	126.3	$10,060.28	$18,109.18
VIII. Tenure:					
Total number of farms (item 7)	116,851	154,659	32.4	16.5	17.4
156. Cultivated by complete owners, number	(No report)	111,248	....	....	12.5
157. Cultivated by complete owners, percentage of total	(No report)	71.9	....	....	....
158. Cultivated by part owners, number	(No report)	14,805	....	....	1.7
159. Cultivated by part owners, percentage of total	(No report)	9.6	....	....	....

§The number of factories producing cheese and butter was:

	In 1890	In 1900
By Census:		
Cheese factories Butter factories	115*	396*
By State Dairy Commissioner:		
Cheese factories	121	....
Butter factories	152	....

*Grouped as "establishments producing cheese and butter."

Items	1890	1900	Percentage of increase or decrease	Per 100 of the country population	
				1890	1900
160. Cultivated by owners and tenants, number	(No report)	756	....	....	.1
161. Cultivated by owners and tenants, percentage of total	(No report)	.5	....	....	....
162. Total cultivated by owners, number	101,747	126,809	24.6	14.4	14.2
163. Total cultivated by owners, percentage of total	87.1	82.0	—9.4	....	....
164. Cultivated by managers, number	(No report)	1,095	....	....	.08
165. Cultivated by managers, percentage of total	(No report)	.7	....	....	....
166. Cultivated by cash tenants, number	3,421	5,129	49.9	.48	.58
167. Cultivated by cash tenants, percentage of total	2.9	3.3	13.8	....	....
168. Cultivated by share tenants, number	11,683	21,626	85.1	1.65	2.43
169. Cultivated by share tenants, percentage of total	10.0	14.0	40.0	....	....

CHAPTER VI

RECENT TENDENCIES IN AGRICULTURE

Weather and insects, 1900-1913

The summer of 1900 was one of the warmest on record, almost equaling 1881 and 1894 (Fig. 101). In the spring there was also drought, followed by heavy, and in places excessive, rains from July to September.[1] The season of 1901 was favorable up to midsummer, but torrential rains later in the season, together with early frosts, caused losses in some districts (Figs. 100, 21). Insects were also troublesome, especially the chinch-bugs in the south central section, the Hessian fly wherever wheat was grown, and the Rocky Mountain locust (grasshopper) in the Red River Valley from Wilkin to Kittson County.[2] From 1902 to 1906 the annual rainfall was above the average (Figs. 22, 100), and there were occasional complaints (as in 1903) of early frosts.[3] On the whole, however, while the annual temperature was below normal in 1903 and 1904, the average growing season for the State as a whole was unusually long, from 1903 to 1906 inclusive (Figs. 12, 21). In 1903, however, the lesser migratory locust caused damage in Otter Tail County, and also near Crookston, where some tracts had been left unplowed; while the Hessian fly, favored by moisture, destroyed not less than eight per cent of the wheat crop, notably in the west and southwest. Chinch-bugs, although held in check somewhat by rain, caused loss on warm sandy soils, attacking especially wheat, barley, and, later in the season, corn.[4] The Hessian fly continued to be destructive in 1903, but even this was less in evidence during the cool season of 1904.[5] On the other hand, some districts were affected by rot and blight;[5] and the heavy rains flooded considerable areas, especially during 1906 in the Red River Valley.[6] In 1907, as in 1903 and 1904, the average annual temperature dropped below normal, being low at all seasons (Figs. 12, 101). At the same time the average growing season was cut short by a late spring, falling to 118 days (Fig. 21). These variations were, however, less disastrous than might have been expected, because the precipitation also fell somewhat below normal, enabling a smaller amount of heat to exert a greater effect on vegetation. In 1908 both temperature and precipitation somewhat exceeded normal; in 1909 the temperature was a trifle below normal, while precipitation remained abundant (Figs. 12, 22). In both years the growing season exceeded the average in length (Fig. 21). These two years were consequently among the most favorable for crops on record.[7] In 1910, however, came a season of unexampled drought, the average precipitation for the year being less than fifteen inches. Moreover, in spite of the high average temperature, the growing season was relatively short (Figs. 12, 21). The deficiency of rainfall in 1910 was in large measure offset by an excess in 1911, though not until disastrous results had followed. The temperature was lower in 1911 and especially in 1912, but rose in 1913 to approximately the same point as in 1910, though with very different results owing to the larger rainfall.

During 1909 and especially during the dry season of 1910, damage was again reported from grasshoppers in the Red River Valley, particularly near large tracts of unplowed land which served as hatching places. As these tracts were held by non-resident owners, they unfortunately could not, under the law, be plowed at the expense of the owners.[8]

Defects of recent statistics

The series of Minnesota Statistics came to an end in 1898, owing to opposition in the legislature. For this reason it is impossible to trace the development of agriculture in the State as clearly during the last decade as during any previous period after 1858, aside from the period of the Civil War when the state statistics were likewise discontinued.

Owing to the absence of state statistics, it is necessary to rely, for the last decade, chiefly on the federal census, which covers only the crop years 1899 and 1909; together with the estimates published by the United States Department of Agriculture. These estimates, however, being based on the guesses of local observers, are of little value so far as concerns acreage in the several crops. This fact was strikingly shown when the department estimated for 1909 nearly double the acreage of

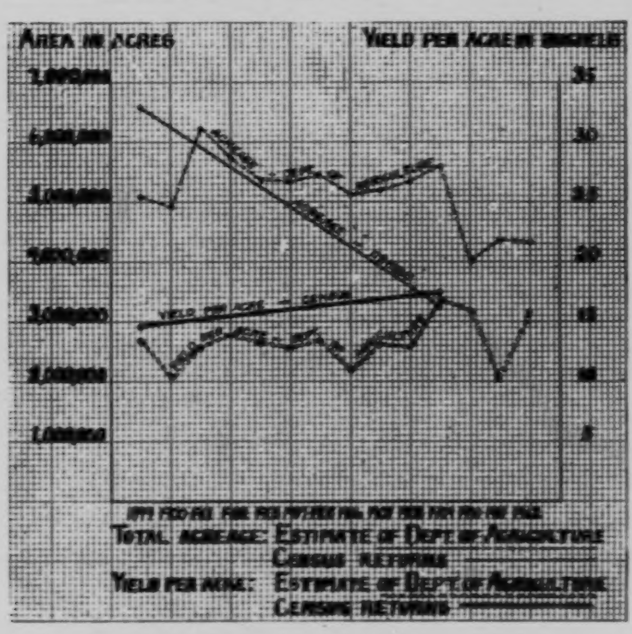

Figure 159. Acreage and acre yield of wheat, 1899-1912.[9]

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[1] *Eighth Report Agr. Exp. Sta.*, VII.
[2] *Ninth Report Agr. Exp. Sta.*, VI, X-XIII; *Tenth Report*, XVIII.
[3] *Eleventh Report, Agr. Exp. Sta.*, 9.
[4] *Eleventh Report, Agr. Exp. Sta.*, 22-23; *Insects Injurious in 1902*, 12-18.
[5] *Thirteenth Report, Agr. Exp. Sta.*, VIII, 11-15.
[6] *Sixteenth Report, Agr. Exp. Sta.*, 5-10.
[7] *Nineteenth Report, Agr. Exp. Sta.*, 167-171.
[8] *Ibid.*, 74-75.
[9] Census of 1900 and 1910; U. S. Dept. of Agriculture. Statistics Bul. 57 and Year Books 1909-1912 inclusive.

wheat in Minnesota which was found by the census for the same year (Fig. 159). It is evidently hopeless to attempt to calculate, from figures having such a margin of error, the percentage of tilled land in various crops from year to year. However, local observers are able to ascertain, from threshers' reports, average yields much more closely than acreage; and the acre yields published by the department may consequently be used with some confidence.

This conclusion is confirmed, in the case of wheat, by comparing the census figures of total acreage and average yield, with the estimates of the Department of Agriculture.

Yield and price of wheat, 1900-1912

According to the census the average yield of wheat in Minnesota was 14.5 bushels per acre in 1899 and 17.4 bushels in 1909; an increase of 20 per cent (Fig. 102). The estimates of the Department of Agriculture ran a little lower, but showed substantially the same ratio of increase. According to these estimates the drought of 1900 and the floods of 1906 both resulted in partial crop failures; while the great drought of 1910, leaving the soil exhausted of moisture, was largely responsible for a still more disastrous failure in 1911. With these exceptions, the average yields per acre exceeded 12 bushels each year, being highest in the census year 1909.

In this connection it is significant that investigations by the Agricultural Experiment Station covering the period 1902-1907 found 12 bushels per acre to be the minimum crop of wheat which would yield a profit under modern conditions. For the ten-year period 1900-1909 the average yield for Minnesota shown by the estimates of the Department of Agriculture was 13 bushels per acre. The margin above the cost of production of wheat since 1900 has thus been somewhat narrow.

On the other hand, in contrast to the period from 1880 to 1896, the general tendency of wheat prices since 1900 has been upward, except for the two years 1906 and 1907. This movement, like the acre yield, also reached its climax in 1909 (Fig. 75).

Proportion of land under each crop

While changes from year to year can not be ascertained since 1898, owing to the unfortunate discontinuance of the state statistics, it is possible, by using the census figures, to ascertain roughly the use of the tilled land down to 1909 (Figs. 74, 104). The proportion of tilled land in grains was higher in 1860 than in any subsequent year so far as reported. In 1883 this proportion dropped below 90 per cent, and in 1910 for the first time the census showed less than 80 per cent of the tilled land in grains. The land lost by the cereals largely went to cultivated hay and fodder crops, flax, potatoes, and pasture (Figs. 74, 104).

The phenomenal rise previously noted from 1895 to 1899 (page 137) had carried the area in wheat up to 6.6 million acres, or 50.69 per cent of all tilled land. It may reasonably be assumed that after 1899, as in previous decades, the acreage under wheat continued to vary directly with the acre yield and with the price. On this basis the low prices and crop failures of 1900 and 1906 presumably tended to reduce, while the relatively good crops and high prices of 1905, 1908, and 1909 tended to increase, the acreage planted to wheat in subsequent years (Figs. 75, 102). In spite of this stimulus the area in wheat had shrunk, by 1909, from 6.6 million acres, or 50.7 per cent of all tilled land, to 3.3 million acres, or 25.7 per cent of such land. In view of these figures it is manifest that, while agriculture still remained the greatest single industry, wheat growing had definitely ceased to be the dominant type of agriculture. King Wheat, after a reign of more than forty years in Minnesota, had finally been dethroned.

The land lost by wheat was largely planted to oats, corn, barley, and rye, which have always gained whenever wheat lost (Figs. 74, 104). Oats, indeed, held in 1909 but little less land than wheat, and may eventually become the premier grain crop of the State. Still more significant, however, was the rapid increase of cultivated hay, which means rotation of crops and a corresponding expansion of animal industries.

Distribution of improved land in 1910

Improved land was still very unequally distributed throughout the State, and this fact underlay the unequal distribution of crops and of values. From Fillmore County north and west to Clay County the proportion of total area improved was from 60 to 90 per cent except for several river counties and the belt from Stearns to Otter Tail which includes the Leaf Hills moraine (Fig. 161). East of the Mississippi, on the other hand, only three counties had 40 per cent and only seven had 20 per cent of their area improved for farming purposes. In practically all of the coniferous region the proportion of improved land was less than 10 per cent; and in most of it less than 1 per cent. The complete contrast which the coniferous region thus offered to the early settlement and rapid development of the broad-leaved timber belt and of the prairies is most striking.

Distribution of small grains according to the census of 1910

In 1909, as reported at the census of 1910, wheat had ceased to be an important factor in the crop system of both the southeastern and the southwestern counties (Figs. 162, 163). In the two southern tiers of counties only the strip of relatively low land with heavy soil running south from the big bend of the Minnesota—once the channel by which the great glacier moved south into Iowa—continued to grow wheat in considerable amounts. The bulk of the wheat crop reported by the census of 1910 thus came from the Minnesota and the Red River Valleys. In recent years winter wheat, which yields more to the acre, has made some progress in the south and even as far north as Crookston. It is frequently planted in standing corn, which tends to hold the snow.[11]

Oats, in addition to being generally grown for local use, were cultivated more intensively in several distinct areas: one in Dakota and Washington counties near the large cities, another in Mower County on the highest part of the southeastern plateau. Both of these corresponded to the distribution in 1900. There was also apparently the beginning of a third oats district, as yet less clearly defined, in the southwestern Coteau section. The explanation of this distribution is somewhat complex. In view of the bulky character of oats, this crop, like potatoes, pays better near the city markets. On the other hand, warm nights tend materially to lessen the yield of oats; hence it may reasonably be inferred that the upland districts named are better suited to oats than to most other cereals. Oats are also the principal grain crop of the coniferous zone,[12] partly for climatic reasons, partly because the lumber and mining industries furnish markets near at hand (Figs. 164, 165).

Barley showed a much wider spread in 1909 than in 1899, being of some importance in all parts of the agricultural zone

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[10] Bul. 117, 45.

[11] *Seventeenth Report, Agr. Exp. Sta.*, 378.

[12] *Eleventh Report, Agr. Exp. Sta.*, 182.

(Figs. 139, 166). The areas of most intensive culture were found in the southeastern counties, which originally led in wheat, and also in the southwestern district. There barley apparently competed for the soil with oats; Martin County, for example, having much oats and little barley, while others reversed these proportions.

Compared to other cereals, aside from buckwheat, barley has the advantage of ripening in a shorter season and therefore escaping late droughts. Both barley and oats, the one doing well in a cooler season and the other ripening in a briefer period, seem better adapted to upland situations, and also to the northern half of the State east of the Red River lowlands, than either wheat or corn.

Rye, like barley, spread widely between 1899 and 1909, replacing wheat on considerable land (Figs. 141, 168, 169). The center of density was still in the potato and oats region near the Twin Cities, but extended also toward the northwest in the hardwood belt from Stearns to Otter Tail County. Of all cereals grown in Minnesota rye is best adapted to a sandy soil. Moreover the winter variety, being fall-sown and harvested in July, before either winter wheat or barley, usually escapes summer droughts. It has also the further advantage of furnishing late fall and early spring pasturage, and of spreading farm labor over a larger part of the year. Finally, rye is a good stock food, largely takes the place of wheat in breadmaking whenever wheat flour is expensive, and yields more to the acre than wheat, especially if the value of the straw be included.[14] For all these reasons a considerable development of rye culture would appear to be in the line of economic advantage, especially on the cut-over timber lands in the northern half of the State.

Buckwheat, being to a considerable extent a catch crop, planted after a failure of some other crop to make a good stand, fluctuates considerably from year to year, both as to amount and location. In the 1909 season, six counties grew as much as 10,000 bushels each, five of them being in the southeast and one (Polk) in the northwest. The largest crop was in Mower (Fig. 170).

More important than buckwheat are two grains recently introduced by the Department of Agriculture for use as stock feed: emmer, which is highly drought-resistant, and spelt, a cereal of the wheat family but encased, like oats, in a close-fitting husk. In 1909 there were two distinct areas of emmer and spelt growing: one in the southeast, where the crops were presumably an adjunct to the dairy industry; and another in the southwest. There was also some production in most of the western counties (Fig 171).

Field beans and peas, planted and harvested like small grain, are a considerable factor in the crop system of other states, notably Michigan, which are located on the northern edge of the corn belt; but in spite of occasional spurts, neither has become of such importance in Minnesota as to be shown on a map using the same unit as other bushel crops. In 1909 the principal producing counties were as follows (Table 19):

TABLE 19.—ACREAGE AND YIELD OF FIELD PEAS AND BEANS IN 1909

Counties	Peas acres	Peas bushels	Counties	Beans, acres	Beans, bushels
Benton	44	804	Aitkin	75	1,955
Carlton	38	453	Anoka	294	2,620
Houston	100	1,384	Becker	51	1,058
Nicollet	16	510	Benton	73	817
Olmsted	22	513	Cass	53	883
Otter Tail	84	1,573	Chisago	108	1,708
Pine	38	645	Crow Wing	147	1,874
Ramsey	44	681	Hubbard	135	1,560
Saint Louis	92	1,324	Isanti	1,448	16,230
Sherburne	43	922	Morrison	61	1,350
Stearns	131	3,344	Otter Tail	258	3,946
All others	183	2,811	Pine	57	1,321
			Polk	158	2,705
			Sherburne	78	907
			Todd	491	5,165
			Washington	124	2,430
			All others	1,086	16,293
State	835	14,964	State	4,697	62,822

Peas are the hardier but require heavy soil; with the result that though they were little grown in the prairie region, where small grains had the preference, most of the producing counties, aside from Carlton and Pine, were in the hardwood zone. On the other hand, beans do well on sandy loams but are very susceptible to late frosts. The principal region of production, therefore, lay east of the Mississippi, especially in Isanti County. The production of beans is more than four times as large as that

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[13] *Eleventh Report, Agr. Exp. Sta.*, 192.
[14] *Bul. 180, Agr. Exp Sta.*, 3-4.

of peas; but this crop, like rye, seems capable of a far greater development in the cut-over region east of the Mississippi, unless, indeed, late frosts prove a serious obstacle.

Distribution of corn according to the census of 1910

Corn continued to spread northward during the decade. The area of greatest density, which in 1899 was limited to the southern tier of counties, by 1909 had advanced at least two tiers of counties, extending well toward the headwaters of the Minnesota. Moreover, the Squaw and Flint varieties characteristic of frontier agriculture had largely given way to the more productive Dent corn.[15] In fact, it may fairly be claimed that corn has completed the conquest of the State, aside from the north shore of Lake Superior; since, according to the census of 1910, corn of some sort was grown in every county but two.[16] It however remains to be determined how far north corn is likely to become a commercially important crop.

One important factor in corn growing, which some investigators consider the principal determinant of fat or lean crops, is the rainfall during June and July.[17] On this basis, in normal years all Minnesota can readily qualify as a part of the corn belt, since three fourths or more of the annual precipitation falls in the three summer months (Fig. 23). Moreover, the heaviest rainfall is in June, when most needed, and the next heaviest in July.

The other important factor is of course the temperature. Corn, being of semitropical origin, requires more heat than most crops of the temperate zone. Abbe, indeed, declares the gorwth of corn to be practically proportional to the accumulated excess of temperature above the germinating point, which for corn is given as approximately 50 degrees F.[18] However it may be about growth, this rule clearly does not hold as to yield. From 1900 to 1909 inclusive the average yield of corn in Minnesota, as reported by the Department of Agriculture, was 29.4 bushels per acre, which far exceeded the yield in any of the states south of the Potomac and Ohio, or in Texas, Oklahoma, Missouri, Kansas, Nebraska or South Dakota. Even Iowa, as famous for corn as Minnesota for wheat, led Minnesota by only 2.9 bushels per acre[19] (Fig. 160).

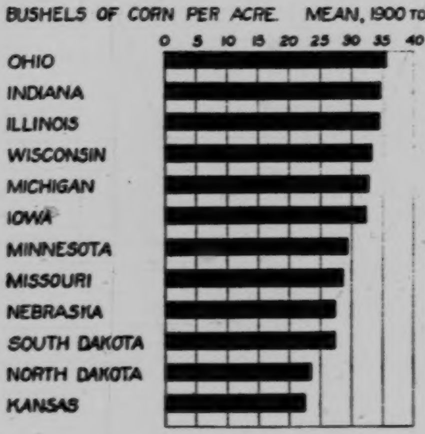

Figure 160. Comparative yields of corn per acre in the principal corn-growing states, 1900-1909.

During the early years in Minnesota it was supposed that the isotherm of 70° F. for June, July, and August marked the northern limit of corn as a leading crop; but at present practically the entire Wisconsin corn district, as well as a considerable part of Iowa, lies beyond this line.[20]

Again, butter production in Wisconsin is said to be more profitable in the corn belt, and cheese production farther north; at the same time it appears that cheese factories in Wisconsin are found chiefly north of the district having a growing season of 150 days.[21] This would seem to identify the zone of 150 growing days as the northern limit of the corn belt. In point of fact, however, while the greatest density of corn production in Wisconsin is found in this zone, corn has long since passed beyond these limits, even in that State; while in Minnesota there is no evidence of any relation between a season of 150 days and corn growing, unless it be that Martin County, which grew the most corn in 1909, has such a season; but so also have several other counties in the southeast and the east, which grow relatively little corn (Figs. 172, 173).

One reason for this northward extension of the corn belt, beyond the latitude once thought suitable, is the greater duration of summer sunshine in high latitudes, which forces vegetation to an extraordinarily rapid growth. During the three summer months the sun is above the horizon 1,403.8 hours at Crookston and 1,373.5 at St. Paul, against 1,355 hours at Milwaukee and 1,337.2 hours at Peoria, in the heart of the Illinois corn country.[22] Further, the proportion of actual to theoretically possible hours of sunshine is greater, and the average temperature of summer is therefore higher, in Iowa and Minnesota than at the same latitude and elevation in the vicinity of Lake Michigan. For example, at St. Paul there were 1,006 hours of actual sunshine in June, July, and August, 1911, against 853 hours in the same three months at Milwaukee. The ratio of actual to possible sunshine was thus 73 per cent at St. Paul, but only 63 per cent at Milwaukee. Finally, in spite of the heavy summer rainfall, the air is less moist in most of Minnesota than it is farther east; and while air so dry as to permit a rapid radiation of heat, and consequently, cool nights, is unfavorable to corn, yet short of this point, the drier the air the more rapidly corn will mature.[23]

These favorable influences extend in a measure to all parts of the State; yet it is a fact, and one to which special attention has been called by Professor C. P. Bull, that the acre yields of corn average much larger in the southern than in the northern counties.[24] It is also a fact, as reported by the federal census, that in 1909 relatively little corn was grown north of Otter Tail County, except in the lower river valleys (Fig. 172). The explanation is not far to seek. In the northern half of the State earliness of maturity and heaviness of yield seem to vary inversely;[25] and while corn can be grown almost everywhere, it does not follow that corn is everywhere the most profitable crop to grow, even for stock feed. The practical limit is thus drawn

[15] *Eleventh Report, Agr. Exp. Sta.*, 213-214; *Sixteenth Report*, 177-178; *Seventeenth Report*, 389-390.
[16] Boss, A., *Northward Movement of the Corn Belt* (*Proceedings Minnesota Agricultural Society*, 1911, 257-259).
[17] Smith, J. W., *Relation of Precipitation to the Yield of Corn* (*Year Book, U. S. Dept. of Agriculture*, 1903); Arctowski, H., *Studies on Climate and Crops* (*Bulletin of Am. Geog. Soc.*, October, 1912).
[18] Abbé, Cleveland, *Relation Between Climate and Crops*, 335 (*Bul. 36, Weather Bureau*).
[19] Data from *Year Book, U. S. Dept. of Agriculture*.
[20] *Bul. 200 Bureau of Plant Industry*, Plate 11.
[21] *Bul. 201, Wis. Agr. Exp. Sta.*, 6; *Bul. 210*, maps 6, 17.
[22] Data from U. G. Purssell, Director U. S. Weather Bureau at Minneapolis.
[23] *Eleventh Report Agr. Exp. Sta.*, 213-214.
[24] *Minnesota's Resources*, 9 (State Board of Immigration, St. Paul).
[25] *Sixteenth Report, Agr. Exp. Sta.*, 177.

by economic considerations rather than directly by climate. There are, however, good Dent varieties ripening in 110 to 115 days, and these can be matured with reasonable certainty wherever the average growing season is 130 days. Even the shorter seasons at such places rarely prove insufficient to mature the crop. In Minnesota the line marking an average season of 130 days seems to bear some relation to the isotherm of 65° F. for the three summer months, avoiding, however, the plateau in the north central section above the 1,250-foot contour line (Figs. 16, 4). Most of the zone having 130 growing days also lies south of the line indicating September 15 as the average date of the first killing frost in autumn. In the region beyond the 130-day zone, barley now largely serves as stock feed, in lieu of corn; being supplemented by rye, field peas, clover, and root crops.[26] This is, moreover, the approved agricultural practice, as appears from the four-year rotations recommended by the Agricultural Experiment Station for this section, which are (1) oats, barley, clover, fodder corn; (2) barley, clover, field peas (on heavy soil), root crops.[27]

Distribution of non-cereal field crops according to the census of 1910

Flax, planted for seed, also moved northward (Figs. 174, 176). There was an increase in the northern part of the Red River Valley, but from Clay County south a marked decline had occurred. South of the Minnesota flax was still grown to a limited extent in the group of counties from Mower and Fillmore to Goodhue, and also more extensively in the southwestern prairie district, but from the intervening south central counties it had practically disappeared. The explanation of this decline is probably the deleterious effect which repeated crops of flax exercise upon the soil.

Potatoes were grown less extensively in many parts of the State than ten years before (Figs. 175, 177), presumably because of the further development of specialized potato growing in the two districts previously noted—one adjacent to and mainly north of the Twin Cities, the other in Clay County. Potato culture had also spread considerably toward the north, east of the Mississippi; and there were indications of a similar development in the hardwood belt between Sherburne and Otter Tail counties, precisely as in the case of rye. In fact, throughout the northern half of the State, aside from the Red River Valley, potatoes, since they flourish on light soils and mature in a season of 100 days or even less, are in process of becoming the principal money crop.[28]

The acreage and production of hay, including both wild and tame, showed the usual wide and fairly equal distribution. (Figs. 178, 179). Even cultivated hay, which had previously been substantially limited to the older districts, now extended over the entire agricultural zone, including portions of the coniferous region (Figs. 150, 179). There was, however, a district of greatest density, though no longer sharply defined, in Freeborn, Dodge, and the adjacent counties. This wide distribution of cultivated hay is one of the most striking evidences that by 1909 the one-crop system was no longer exclusively followed in any section of Minnesota.

In addition to the tame grass cut for hay, there were considerable areas of timothy, clover, and millet grown for seed, the yield being close to a million bushels and the value approximately 1.5 million dollars. Unfortunately no county statistics are available for these crops; but it is reliably reported that some of the larger farms in the southeastern counties specialize in timothy seed.[29] It is also well known that some farmers in the coniferous district, remote from railroads, grow clover seed because it has a larger value in a small bulk than any grain crop and is therefore more cheaply marketed.

Other special crops grown on a small scale in Minnesota are tobacco and sugar crops. Tobacco was reported for the 1909 season from 186 farms, the entire breadth being 150 acres. Evidently it was nowhere a major product, though there are large areas similar to the tobacco districts of Wisconsin. Unfortunately, there are no county statistics to show the location of the producing farms.

Syrup and sugar are derived, in Minnesota, from three sources: the maple tree, sorghum cane, and the sugar beet. The production of maple sugar and syrup has greatly declined since earlier decades, partly because maples grow on good land which is likely, unless very broken, to be more valuable for other purposes; partly because it has proved almost impossible to prevent the sale of imitation maple products. During the last decade, however, there was some recovery due to better enforcement of laws against adulteration (Table XXIII, Items 44, 45). In 1909 the principal area of production was still in the former "big woods" extending from Le Sueur and Rice to Wright and Hennepin, though some was produced as far north as Beltrami County (Fig. 180). Sorghum has likewise declined since the decade 1869-1879, the area of largest production being also in the "big woods" district where it now serves merely local use (Fig. 180). The most important commercially of the sugar crops, and, indeed, of all these special crops, is the sugar beet. Being planted largely under contract with the factory located at Chaska in Carver County, sugar beets were produced chiefly in the same group of counties as the other sugar crops, with the addition of several along the Mississippi (Fig. 180).

Distribution of fruit and vegetable crops in 1909

During the decade 1899 to 1909 there was an increase in vegetables other than potatoes from 28,361 to 46,021 acres, or 62.3 per cent; in flowers and nursery products, from 1,270 to 4,017 acres, or 216.3 per cent; in small fruits, from 3,092 to 3,738 acres, or 20.9 per cent; and in orchard fruits and nuts, for which no acreage statistics are available, from $125,240 to $813,971 in value of output, or 549.9 per cent (Table 24).

The counties having the largest acreage in vegetables other than potatoes were Dakota, Freeborn, Hennepin, Otter Tail, Ramsey, Stearns, Wabasha, and Wright. All of these except Otter Tail, as well as most of the others having upward of 500 acres each planted to vegetables, are located adjacent to important urban centers (Table 20). Otter Tail, which contains areas of light, warm soil, is well situated to serve as a source of vegetables for the adjacent regions of heavier and colder soils, especially in the Red River Valley.

[26] *Ibid.*, 69, 178; *Nineteenth Report, Agr. Exp. Sta.*, 389-390.
[27] *Seventeenth Report, Agr. Exp. Sta.*, 389-390.
[28] *Ibid.*, 805.
[29] *Bul. 117, Agr. Exp. Sta.*, 42.

TABLE 20.—ACREAGE IN VEGETABLES OTHER THAN POTATOES FOR 1909 (CENSUS OF 1910).

County	Acres	County	Acres
Beltrami	571	Polk	952
Blue Earth	898	Ramsey	1,644
Brown	523	Renville	708
Carver	729	Rice	767
Crow Wing	500	St. Louis	539
Dakota	2,116	Sibley	599
Faribault	532	Stearns	1,394
Fillmore	652	Todd	791
Freeborn	1,369	Wabasha	1,447
Goodhue	644	Washington	763
Hennepin	3,886	Winona	772
Le Sueur	565	Wright	1,035
McLeod	536	All others (having less than 500 acres each)	16,758
Morrison	659		
Mower	646	Total for State	46,021
Nobles	537		
Olmsted	627		
Otter Tail	1,192		
Pine	670		

The localization of vegetable growing has also been somewhat affected by the establishment of canning factories. As reported by the State Dairy and Food Department in 1910, there were 17 canneries in active operation and several others temporarily shut down (Fig. 181). The canning industry in Minnesota was by that date fairly past the experimental stage. The principal products canned were corn, peas, and beans; and it will be noted that the chief group of canneries was in the lower Minnesota valley,[30] which has the greatest density of country population and the largest value of farm products.

Small fruits, comprising chiefly strawberries, raspberries, and currants, mature readily in all parts of the State, though raspberries require some protection in winter.[31] Nevertheless, by reason of transportation charges there was a marked concentration in the southeastern quarter of the State, adjacent to the Twin Cities, Stillwater, Winona, Red Wing, and Mankato (Fig. 182).

Orchard fruits as reported by the census of 1910 showed a somewhat similar, though less clearly marked, localization (Fig. 183). All are planted by preference on fairly abrupt slopes facing toward the north or east, in order to avoid damage from late spring frosts.[31] On this account river bluffs and lake shores are favored situations. Thus, Lake Minnetonka largely explains the density of fruit production in both Hennepin and in Carver counties, even grapes being extensively grown on its shores.

The most important of the orchard fruits is the apple, which, thanks to the work of Peter M. Gideon, originator of the "Wealthy" apple, and other horticulturists, can now be grown even in the northern section provided the soil be at once heavy and well-drained; the plum, which will do well on lighter soils; and the cherry, found mostly in the southeast, notably in Winona County.[32] Nuts were produced to a very limited extent, 7,036 of the 8,110 trees reported being black walnuts. The bulk of the bearing orchard trees in 1910 were in the southern third of the State, though this is probably due more largely to market than to climatic considerations (Fig. 183). Experience has shown that the average farmer, especially in sections remote from large cities, can not profitably grow fruit except for his own use. The production of fruit for the market is an exacting business requiring special knowledge and undivided attention to insure success.[32]

Distribution of stock raising according to the census of 1910

The distribution of horses in 1910 bore a close relation to the number of farms and the amount of improved land, the number being greatest south of the Minnesota River (Fig. 184). Another reason for this concentration was the presence of more of the younger horses in the corn- and oats-growing districts.

Beef cattle were, in general, numerous in proportion as dairy cows constituted a small per cent of the total (Fig. 185). Thus, in northeastern Minnesota dairy cows formed a considerable majority of all cattle, not because dairying was important there, but because few other cattle were kept there. Again in Ramsey, Hennepin, and closely adjacent counties, dairy cows formed an even larger majority because dairymen were ceasing to raise their own cattle, owing to the high cost of feeding them. In the southeastern section conditions varied considerably, the most intensive dairy county (Steele) showing the highest proportion of cows.[33] Finally, in the southwestern counties, as in several of the extreme southeastern, the low proportion of dairy cows shows clearly that cattle were being raised or at least fed for the market.[34]

Sheep raising was well spread throughout the State, including portions of the coniferous zone. Sheep, however, will not

[30] *Report State Dairy and Food Dept.* 1910, 129; *Fourteenth Report*, 41-42.
[31] *Eleventh Report Agr. Exp. Sta.*, 245-246; *Seventeenth Report*, 411-413; *Minnesota Horticulturist*, March, 1914, 102.
[32] *Ibid.*, 140-141.
[33] *Nineteenth Report, Agr. Exp. Sta.*, 94, 157.
[34] *Ibid.*, 94, 157, 168.

flourish on low or wet land, being essentially adapted to arid highlands. It was at least in part for this reason that sheep were most numerous on the relatively high and well-drained lands in the southeastern and the southwestern corners of the State (Figs. 186, 4). On such land it is estimated that one acre will carry six sheep, and that a farm of 120 to 160 acres may profitably keep 50 to 75 ewes.[35]

Swine were in large part a by-product of the dairy industry, being raised on skim milk and fattened on corn or barley. Corn was, however, by far the leading feed stuff, as shown by the general correspondence between the distribution of swine and of corn (Figs. 187, 173). The influence of the city milk trade was also obvious in the small number of swine reported by the city counties and others, such as Dakota and Goodhue,[36] which ship considerable quantities of milk.

Distribution of the dairy industry in 1910

Dairy cattle were distributed in about the same ratio as cultivated hay, being numerous throughout the agricultural zone, including the western and southern parts of the coniferous region especially between the Twin Cities and Duluth (Figs. 179, 188). There were, however, two areas having a greater number to the square mile than any other: one including Freeborn and adjacent counties to the north, as far as Rice; the other comprising some five or six counties west and southwest of the Twin Cities. Dairying was also the leading branch of farming in the southeastern counties, though less intensively developed than in the two areas just named; and it had made great progress even in the Red River Valley, especially in the older southern counties.

In the vicinity of cities, even those of comparatively small size, a very appreciable part of the milk and cream was consumed directly, either in the natural state or in the form of ice cream. In addition, large factories (centralizers) located in the cities, especially Minneapolis and St. Paul, manufacture butter or cheese from milk and cream received by rail. Thus investigations made in the Seminar on Economic Development at the University show that the milk supply of Minneapolis consisted, during the calendar year 1912, of 5,243,430 gallons, of which 2,529,105 gallons were hauled in by wagon and 2,714,325 gallons came by steam and electric roads. Shipments were received from points as far south as Steele, as far north as Kanabec, and as far west as Renville County, the most distant shipping point being in the latter county 105 miles from the city. The great bulk of the supply, however, came from the territory within a radius of 70 miles, the larger part of it from the counties toward the south.[37] It follows that neither the number of factories nor the output of butter and cheese tells the whole story as to dairy development, especially in counties near the three large cities, such as Goodhue, Dakota, Rice, McLeod, Carver, Anoka, Chisago, and Washington.[38] On the other hand, the output of butter and cheese in counties containing centralizers may be greater than could be made from their local supply of milk.

Allowing for this diversion of milk to direct consumption and for the effect of centralizers, the distribution of creameries and cheese factories indicates fairly well the status and localization both of dairy development and of butter and cheese manufacture (Fig. 189). Thus, in 1909, as reported by the State Dairy and Food Department, there were 797 creameries, besides 46 skim stations and 69 cheese factories. Of the creameries no less than 547 were organized on the coöperative plan, while 222 were operated for the profit of the proprietors and 28 were not clearly classified as to organization.[39] The coöperative type prevailed, though not exclusively, throughout the southeast and also the northwest; while the private creamery predominated not only in the Twin Cities, but also in several neighboring counties, notably Carver. In the southwestern corner of the State where dairying was as yet a subordinate industry, private creameries also prevailed.

The manufacture of cheese was more closely localized in 1910 than in previous years, the principal cheese district, especially for Swiss, brick, and other sweet-curd varieties, being in Dodge and Goodhue counties. Another district included Otter Tail and Wadena counties, while a third was found in Red Lake and Polk counties. The 69 cheese factories reported in 1911 were classified as follows:[40]

TABLE 21—CHEESE FACTORIES IN MINNESOTA IN 1911[40]

Organization	Number	Product	Pounds
Coöperative	32	American (Cheddar)	3,116,540
Individual	33	Brick	709,238
Centralizers	4	Swiss (three factories)	64,870
Total	69	Total	3,890,648

To avoid confusion it should be noted that there is no connection between the form of organization and the kind of cheese manufactured.

According to experience elsewhere, both in Europe and in this country, a cool summer means a better grade of milk; and the quality of milk affects the grade of cheese more than of butter. As a result, famous cheese districts are with few exceptions found at higher latitudes or altitudes than the butter districts.[41] The best environment for cheese-making is afforded by a hilly district, with rich grass, abundant cold springs, cool nights even in midsummer, and no crop demanding protracted attention during the growing season. For this reason corn, which requires long-continued cultivation, goes better with butter than with cheese-making, since butter can be made in winter, the skim milk being reserved for feeding purposes, while cheese is produced more profitably in summer, when milk is more abundant and is not needed for young animals on the farm. Moreover, where corn is a profitable crop it often pays better to save all the skim milk for raising hogs to be fattened on corn. This fact tends still further to localize butter-making in the corn belt and points to more elevated and more northern districts as preëminently suited to cheese-making. For all these reasons it would seem that while the Dodge and Goodhue district will doubtless persist, having the benefit of acquired experience and reputation, its development is being limited both by the competition of butter plus hogs and by the city milk trade. On the other hand, the more northern section of the state is admirably fitted for cheese-making; especially as a cheese factory will pay even where cows are too few in number to support a creamery. In fact, it would be difficult to name a more favorable environment for cheese-making than is found on the Leaf Hills Moraine in Otter Tail County, and other rugged morainic tracts in northern Minnesota.

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[35] Brown, C. E., in *Proceedings Minnesota Agricultural Society*, 1911, 296-298.

[36] *Bul. 63, State Dairy and Food Dept.*

[37] Jones, C. M., *Sources of the Milk Supply of Minneapolis* (*Bul. 53, State Dairy and Food Dept.*).

[38] *Report State Dairy and Food Dept.*, 1903, 13.

[39] As given in county tables, 54-79 of *Thirteenth Report, State Dairy and Food Department.* The summary on p. 82 of the same report apparently includes nine stock companies and eight of the nineteen unspecified as "coöperative," making 574 so described.

[40] *Fourteenth Report State Dairy and Food Dept.*, 39.

[41] *Bul. 60* and *140. Wis. Agr. Exp. Sta.*

It is indeed claimed that the residual limestone soils in Wisconsin give the highest quality of milk; and that a fairly moist atmosphere is advantageous in the curing of cheese. The marketing of cheese is also a complex process, in which the refrigeration facilities of the great meat-packing plants at Chicago play a considerable role.[42] In all these respects Wisconsin would seem to have a certain advantage over Minnesota. However, both the area of gray drift and the older drift in the Leaf Hills region are rich in limestone; atmospheric moisture can be regulated artificially during curing, if necessary, as is done in cotton mills; and the marketing advantage of Wisconsin may be offset by cheaper feed stuffs, due to the greater proximity of grain fields and milling centers. An organized effort might also result in satisfactory icing arrangements with the meat packers at South St. Paul, Austin, and elsewhere, similar to those in effect at Chicago.

Distribution of poultry and bee industries according to the census of 1910

Poultry raising in 1909 was widely distributed in Minnesota, as in the country at large, being a side industry often carried on by the women: though only a few of the leading crops gave larger returns (Table 24, Fig. 190). In general, poultry raising is favored by a sandy, or at least well-drained, soil and a location near large urban centers.[43] Accordingly, an area of greater density of poultry-raising appeared west and southwest from Minneapolis, in the district previously noted as the seat of intensive agriculture. Coöperative marketing of eggs has been undertaken in some localities, occasionally in connection with dairy establishments.[44]

The bee industry, on the other hand, showed a distinct localization within the original forest zones, especially the hardwood belt, probably because of better shelter (Figs. 191, 8). The relation of bees to fruit was also fairly obvious; while counties which largely adhered to grain farming had made little progress in bee keeping.

Distribution of value of farm products in 1910

The value of farm products was distributed with remarkable regularity over the southern third of the State, aside from the district east of the Mississippi; though an area of greater density could be distinguished in Ramsey, Hennepin, and several counties farther west. This density was evidently due to the intensive use of certain land areas to supply the city markets with perishable products, as well as the introduction of canning and sugar factories. Toward the northwest there was clearly apparent the effect of rugged moraines and of the White Earth Indian reservation in reducing productivity. The most striking features of all, however, were (1) the slight development of agriculture, measured by value of products, in the coniferous region; and (2) the enormous increase in value of products in the State as a whole (Figs. 192, 218).

Distribution of value of farms in 1910

During the decade ending 1910 the value of farm land increased in every county for which comparison was possible (Fig. 193). The figures shown on the map are averages for the whole counties, and of course are much less than the increase in certain townships. Aside from the suburban counties the greatest advance occurred in the three southwestern counties, decreasing (though not regularly) toward the north and east. These changes consequently tended to increase rather than to equalize differences in land values, the lands already relatively high priced showing the greatest advances.

The average land value in 1910 exclusive of buildings varied from $111.47 in Ramsey and $80.56 in Hennepin to $9.63 in Cook, the average per acre for the State being $36.82. Aside from the suburban counties, the highest level of value was in the southwestern and south central counties, sinking irregularly toward the north and east. In general, the value of farm land corresponded to the relative value of farm products in the several sections of the State (Figs. 194, 192).

Distribution of population in 1910

In 1910, as in 1900, an area of greater density appeared around and west of the Twin Cities, including towns of 2,500 or less inhabitants. If, however, all incorporated places be excluded (Figs. 195, 196), the even spread previously noted becomes even more striking. This relative equality appeared not only west of the Mississippi but also in the potato belt east of that river. Only the coniferous section to the northeast remained largely unoccupied by an agricultural population. There was, indeed, a considerable sprinkling of population there outside the incorporated villages but the settlers mostly found employment in other occupations, chiefly lumbering or mining, as appears from the statistics of improved land and of farm products.

The same phenomenon of a decrease in the country population first encountered in 1890, and again in 1900, reappeared in 1910 on a greatly enlarged scale. In fact, a considerable number of counties, mostly in the southern part of the State, decreased, in total population (Fig. 197); a still larger number, extending in an almost continuous zone from southeast to northwest, declined in total rural population, which includes both country and town population up to the 2,500 size; and with the exception of two in the extreme northwest, and five scattered counties, mostly in the southwest, there was a loss of country population throughout the entire agricultural zone west of the Mississippi (Figs. 197, 198). Even east of the Mississippi several of the older counties lost country population. Only in the region of cut-over lands was there any considerable increase on the percentage basis; and the actual increase even there was not large, except for the iron ranges, where the country population is non-agricultural. Minnesota thus exhibits the same condition of decreasing farm population which had previously appeared in some of the older agricultural states farther east and south. (See map, abstract of the Thirteenth Census, page 58, showing per cent of increase in rural population by states, 1900-1910). The problem presented is therefore not at all local, but rather, associated with a certain type of agriculture and stage of economic development (pages 216-219).

[42] *Bul. 210 and 231. Wis. Agr. Exp. Sta.*
[43] *Thirteenth Report, Agr. Exp. Sta., 240.*
[44] *Bul. 138. Agr. Exp. Sta.*

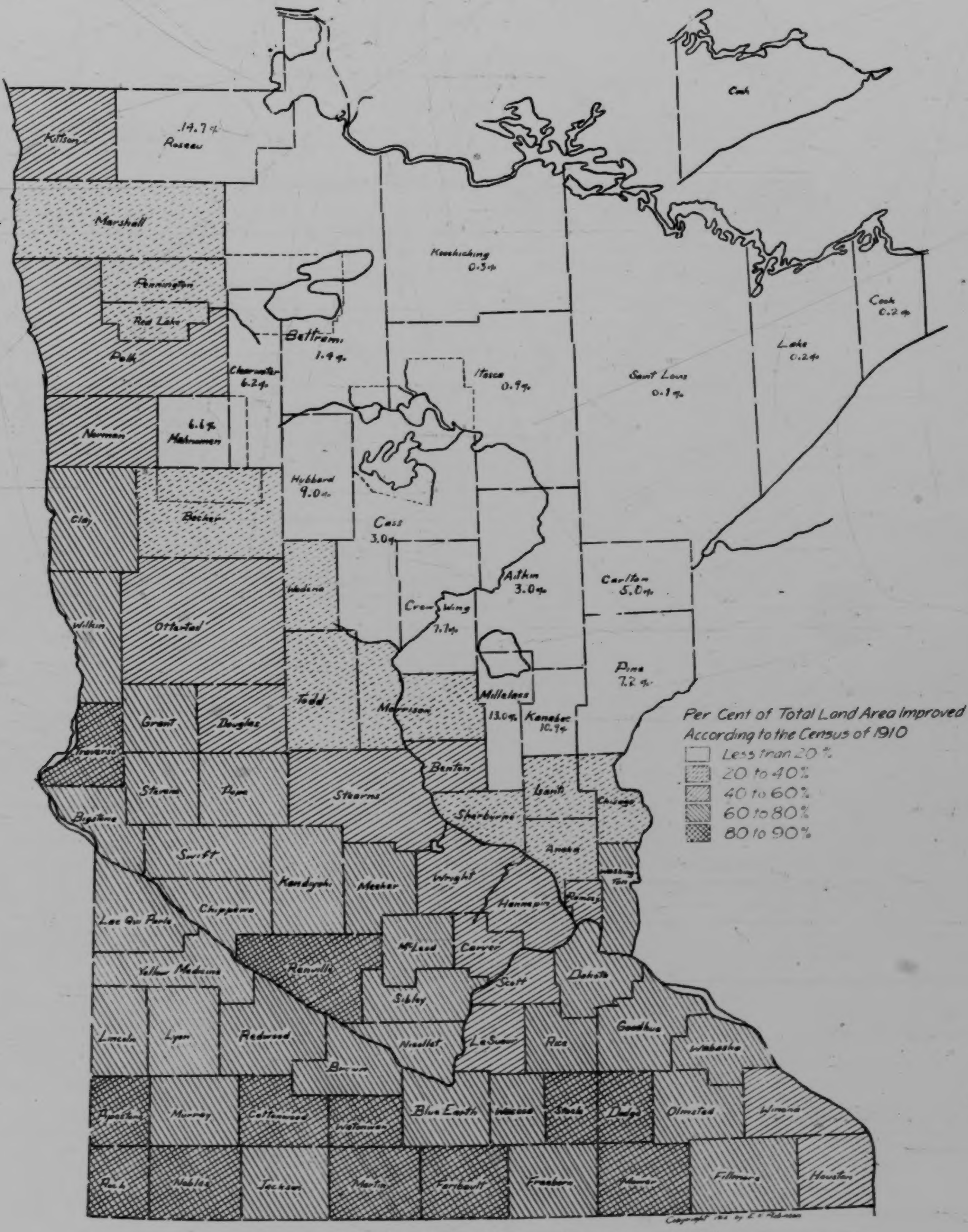
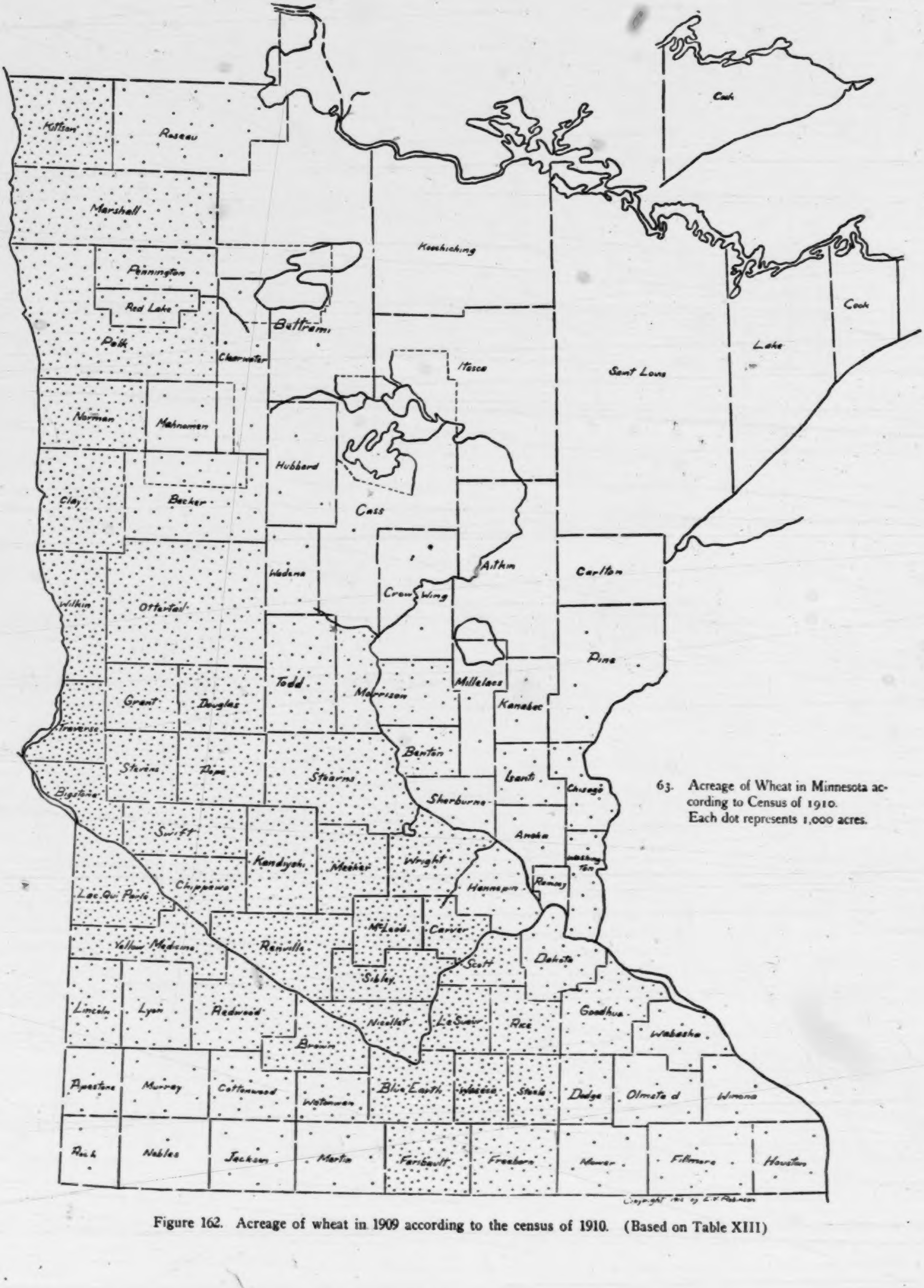

Cook
Kittson
14.7%
Roseau
Marshall
Koochiching
0.3%
Pennington
Red Lake
Beltrami
1.4%
Cook
0.2%
Lake
0.2%
Polk
Clearwater
6.2%
Itasca
0.9%
Saint Louis
0.1%
Norman
6.6%
Mahnomen
Hubbard
9.0%
Clay
Becker
Cass
3.0%
Wadena
Aitkin
3.0%
Carlton
5.0%
Crow Wing
7.1%
Wilkin
Ottertail
Pine
7.2%
Todd
Morrison
Mille Lacs
13.0%
Kanabec
10.9%
Grant
Douglas
Traverse
Benton
Stevens
Pope
Stearns
Isanti
Chisago
Big Stone
Sherburne
Anoka
Swift
Kandiyohi
Meeker
Wright
Washington
Hennepin
Ramsey
Lac Qui Parle
Chippewa
McLeod
Carver
Yellow Medicine
Renville
Scott
Dakota
Sibley
Lincoln
Lyon
Redwood
Nicollet
Le Sueur
Rice
Goodhue
Wabasha
Brown
Pipestone
Murray
Cottonwood
Watonwan
Blue Earth
Waseca
Steele
Dodge
Olmsted
Winona
Rock
Nobles
Jackson
Martin
Faribault
Freeborn
Mower
Fillmore
Houston
Per Cent of Total Land Area Improved
According to the Census of 1910
☐ Less than 20%
▨ 20 to 40%
▨ 40 to 60%
▨ 60 to 80%
▩ 80 to 90%

Figure 161. Distribution of improved land according to the census of 1910.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Wright
Anoka
Washington
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Hennepin
Lac Qui Parle
Chippewa
McLeod
Carver
Yellow Medicine
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Sibley
Scott
Dakota
Lincoln
Lyon
Redwood
Nicollet
LeSueur
Rice
Goodhue
Wabasha
Brown
Pipestone
Murray
Cottonwood
Watonwan
Blue Earth
Waseca
Steele
Dodge
Olmsted
Winona
Rock
Nobles
Jackson
Martin
Faribault
Freeborn
Mower
Fillmore
Houston
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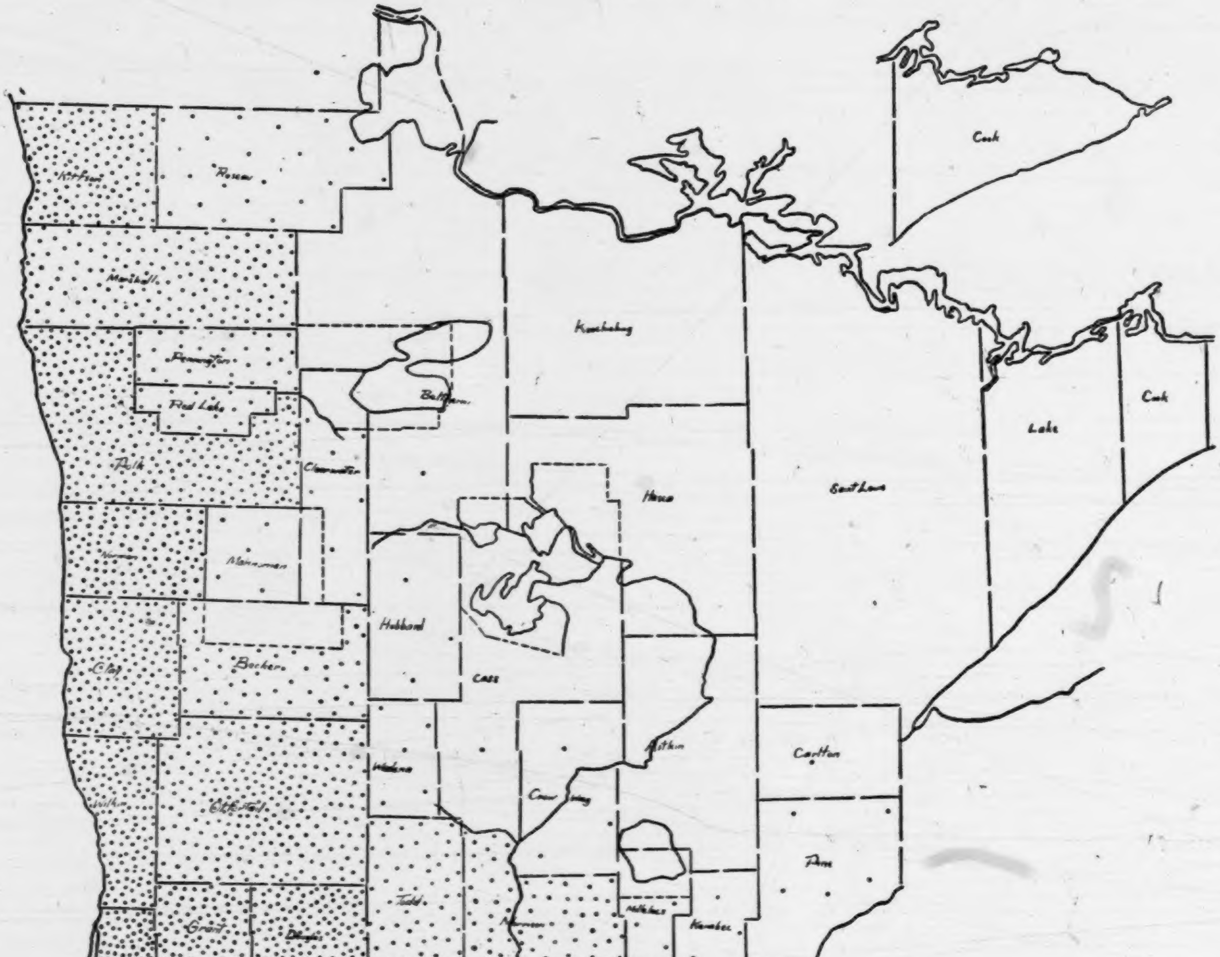
63. Acreage of Wheat in Minnesota according to Census of 1910.
Each dot represents 1,000 acres.

Figure 162. Acreage of wheat in 1909 according to the census of 1910. (Based on Table XIII)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Chippewa
Yellow Medicine
Renville
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Goodhue
Wabasha
Brown
Rice
Pipestone
Murray
Cottonwood
Watonwan
Blue Earth
Waseca
Steele
Dodge
Olmsted
Winona
Rock
Nobles
Jackson
Martin
Faribault
Freeborn
Mower
Fillmore
Houston
19. Production of Wheat in Minnesota according to Census of 1910. Each dot represents 10,000 Bushels.
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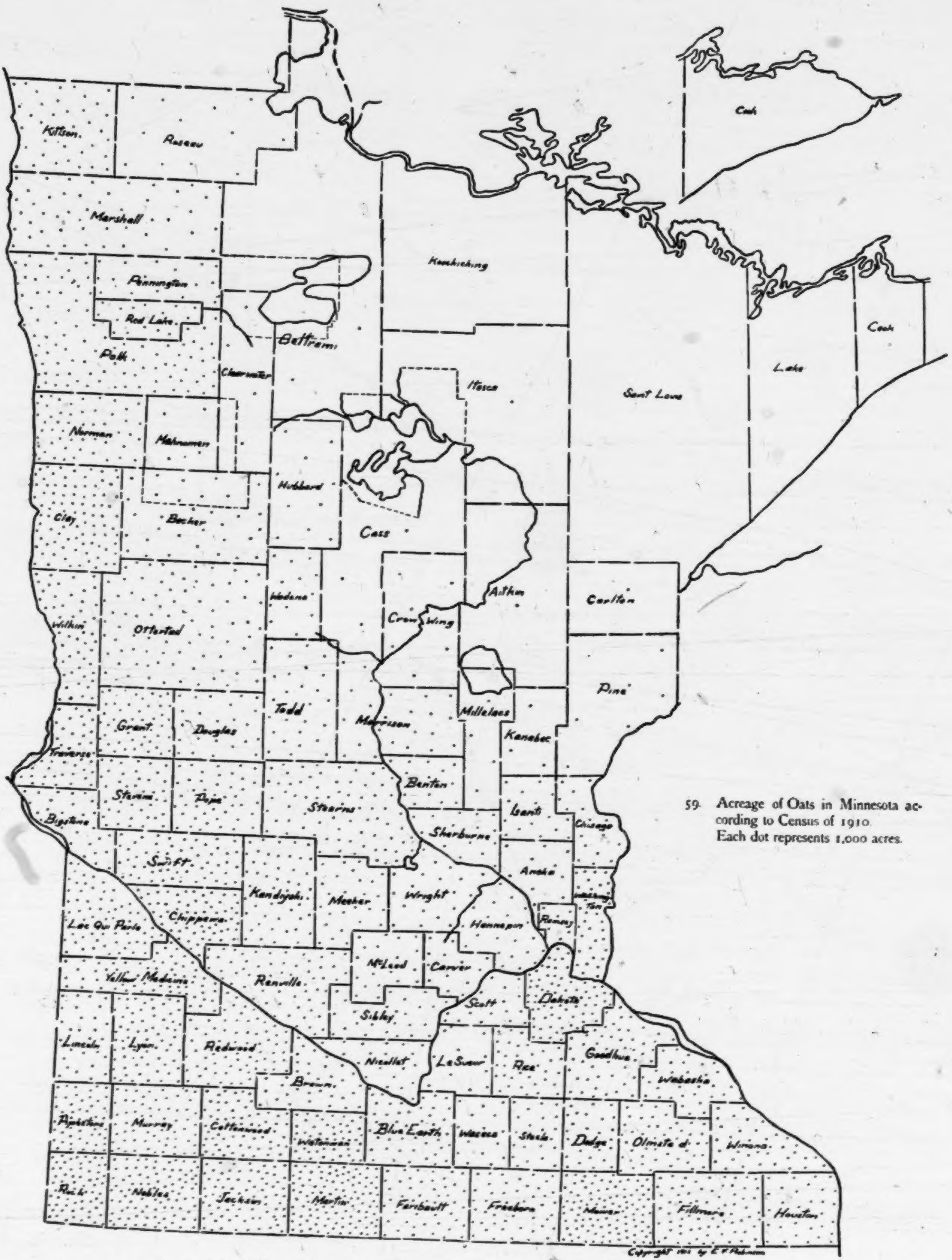
Figure 163. Production of wheat in 1909 according to census of 1910. (Based on Table XIII)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Big Stone
Sherburne
Swift
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Meeker
Wright
Anoka
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Lac Qui Parle
Chippewa
Hennepin
Ramsey
Yellow Medicine
Renville
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Carver
Scott
Dakota
Sibley
Lincoln
Lyon
Redwood
Nicollet
Le Sueur
Rice
Goodhue
Brown
Wabasha
Pipestone
Murray
Cottonwood
Watonwan
Blue Earth
Waseca
Steele
Dodge
Olmsted
Winona
Rock
Nobles
Jackson
Martin
Faribault
Freeborn
Mower
Fillmore
Houston
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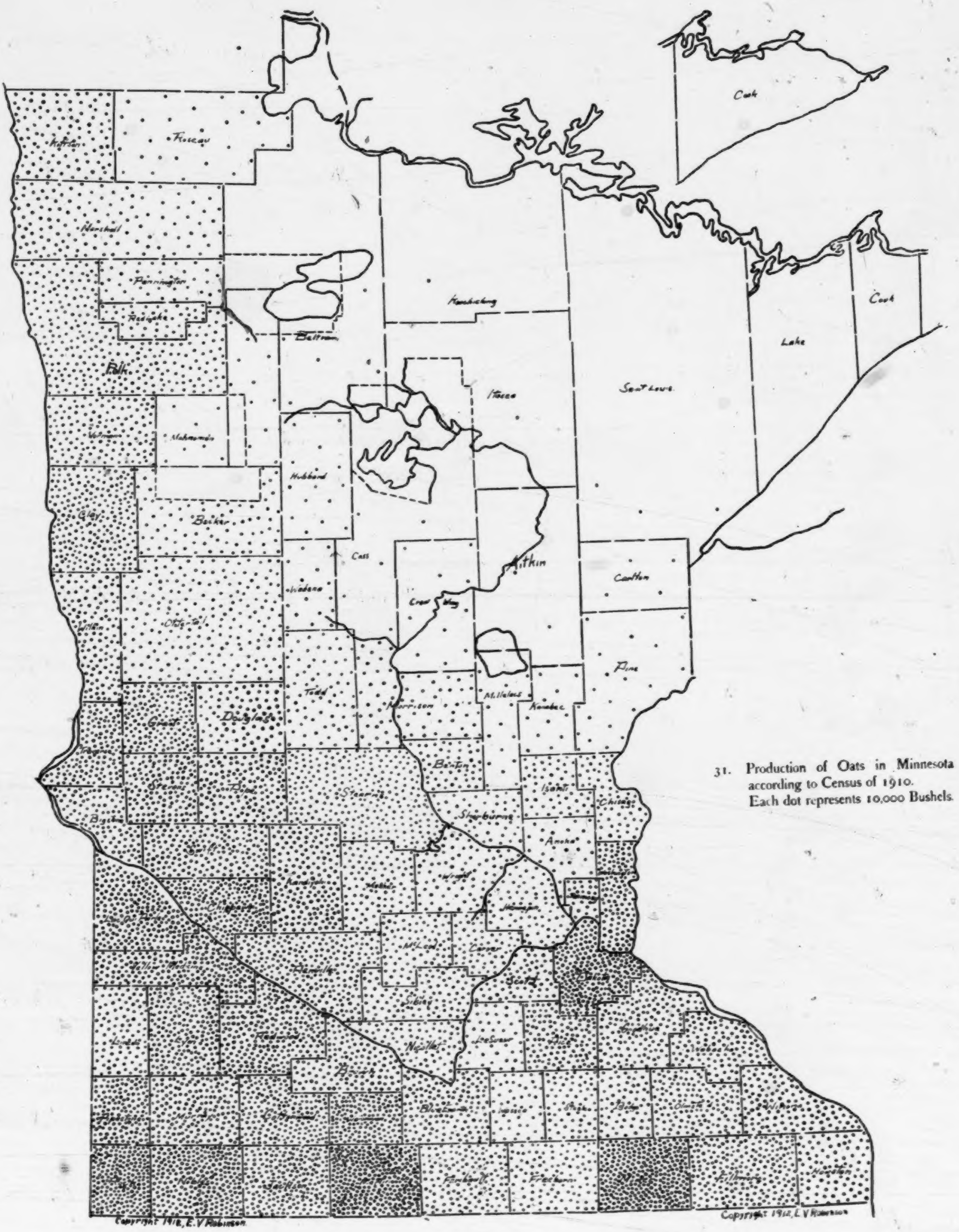
59. Acreage of Oats in Minnesota according to Census of 1910.
Each dot represents 1,000 acres.

Figure 164. Acreage of oats in 1909 according to census of 1910. (Based on Table XIV)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Stearns
Sherburne
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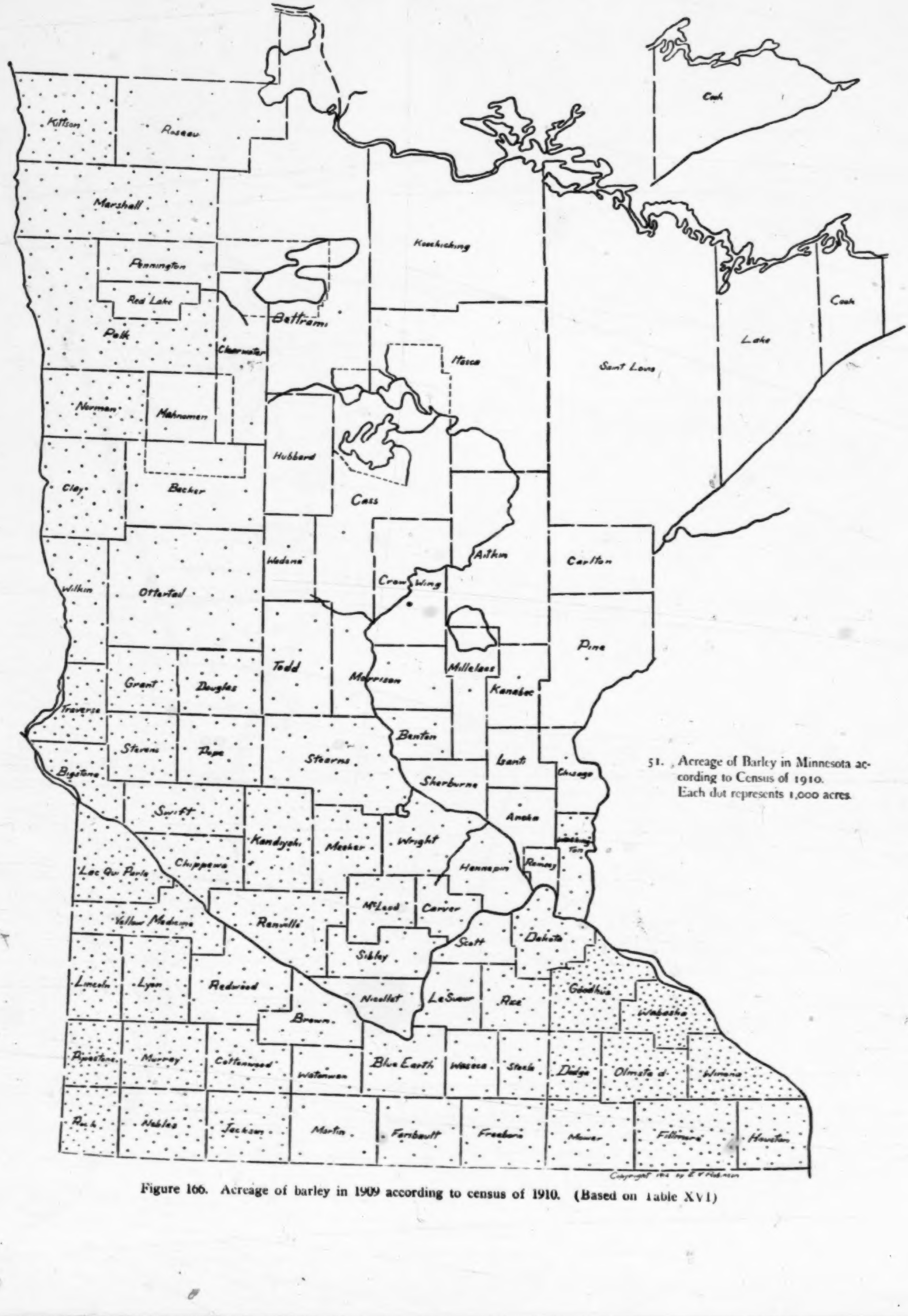
Kandiyohi
Meeker
Wright
Hennepin
Chippewa
McLeod
Carver
Renville
Scott
Dakota
Sibley
Goodhue
Redwood
Nicollet
Le Sueur
Brown
Blue Earth
Waseca
Faribault
Freeborn
Fillmore
31. Production of Oats in Minnesota according to Census of 1910. Each dot represents 10,000 Bushels.
Copyright 1910, E. V. Robinson.
Copyright 1910, E. V. Robinson

Figure 165. Production of oats in 1909 according to census of 1910. (Based on Table XIV)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Koochiching
Itasca
Saint Louis
Lake
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Norman
Mahnomen
Clay
Becker
Hubbard
Cass
Wilkin
Ottertail
Wadena
Crow Wing
Aitkin
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Douglas
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Morrison
Mille Lacs
Kanabec
Traverse
Stevens
Pope
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Chisago
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Chippewa
McLeod
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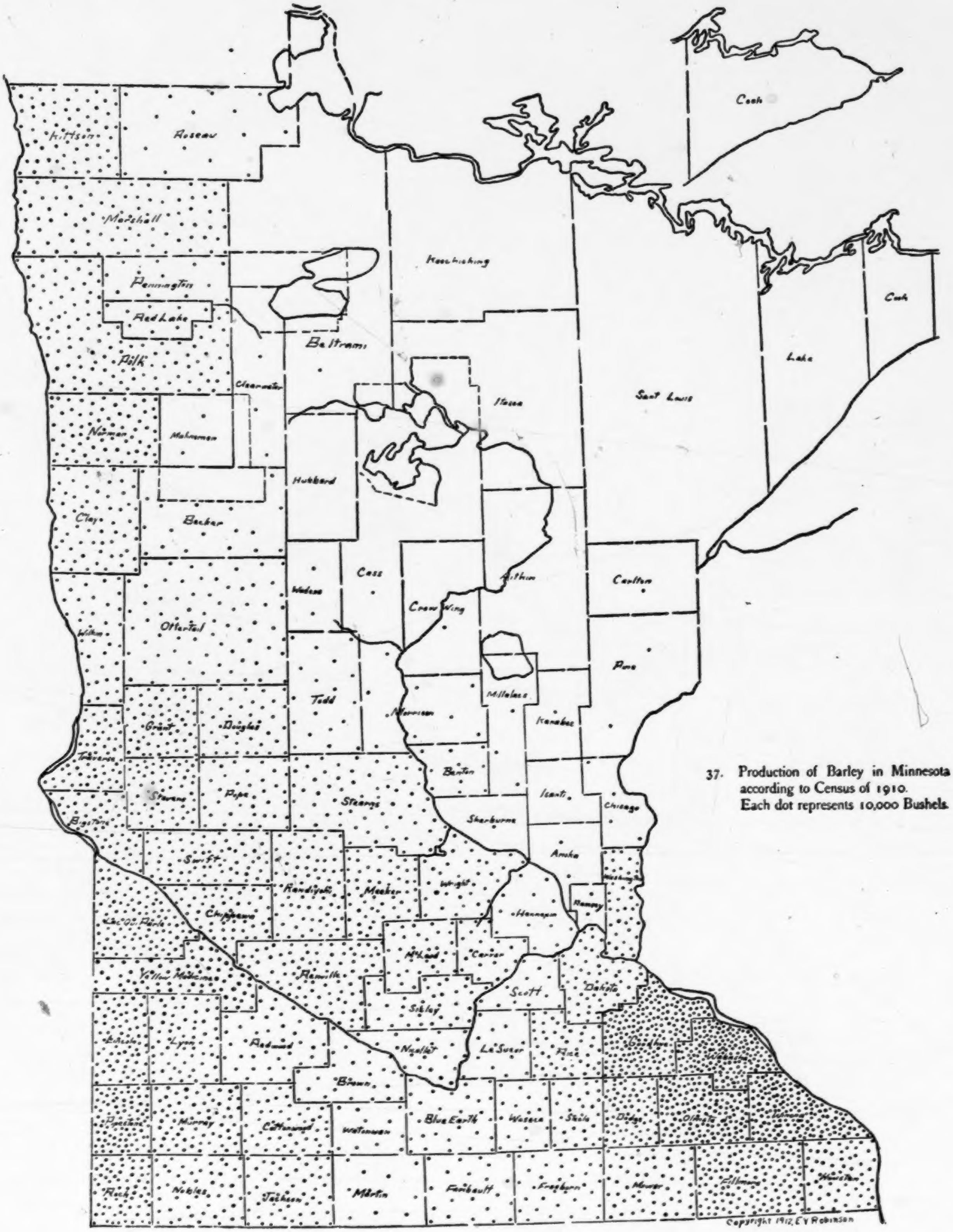
Dakota
Sibley
Lincoln
Lyon
Redwood
Nicollet
Le Sueur
Rice
Goodhue
Wabasha
Brown
Pipestone
Murray
Cottonwood
Watonwan
Blue Earth
Waseca
Steele
Dodge
Olmsted
Winona
Rock
Nobles
Jackson
Martin
Faribault
Freeborn
Mower
Fillmore
Houston

51. Acreage of Barley in Minnesota according to Census of 1910.
Each dot represents 1,000 acres.

Figure 166. Acreage of barley in 1909 according to census of 1910. (Based on Table XVI)


Kittson
Roseau
Cook
Marshall
Koochiching
Pennington
Red Lake
Cook
Beltrami
Lake
Polk
Clearwater
Itasca
Saint Louis
Norman
Mahnomen
Hubbard
Clay
Becker
Cass
Wadena
Aitkin
Carlton
Crow Wing
Wilkin
Ottertail
Pine
Todd
Mille Lacs
Grant
Douglas
Morrison
Kanabec
Traverse
Benton
Stevens
Pope
Stearns
Isanti
Chisago
Big Stone
Sherburne
Anoka
Swift
Wright
Washington
Kandiyohi
Meeker
Ramsey
Hennepin
Lac Qui Parle
Chippewa
McLeod
Carver
Yellow Medicine
Renville
Scott
Dakota
Sibley
Goodhue
Wabasha
Lincoln
Lyon
Redwood
Nicollet
Le Sueur
Rice
Brown
Pipestone
Murray
Cottonwood
Watonwan
Blue Earth
Waseca
Steele
Dodge
Olmsted
Winona
Rock
Nobles
Jackson
Martin
Faribault
Freeborn
Mower
Fillmore
Houston
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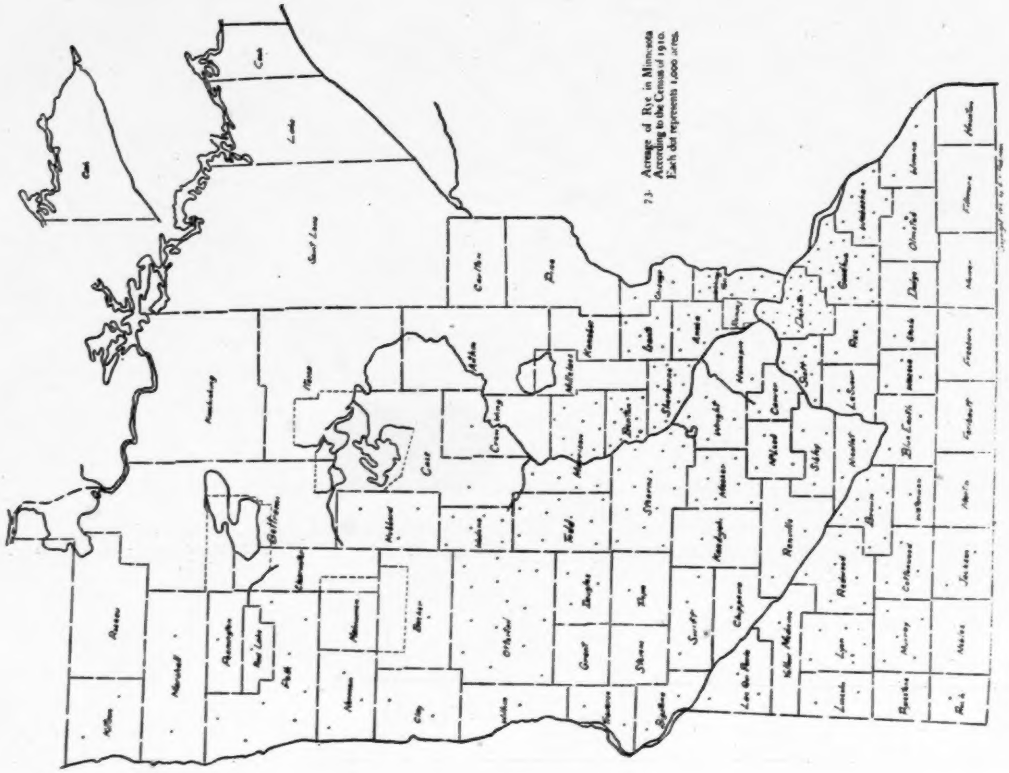
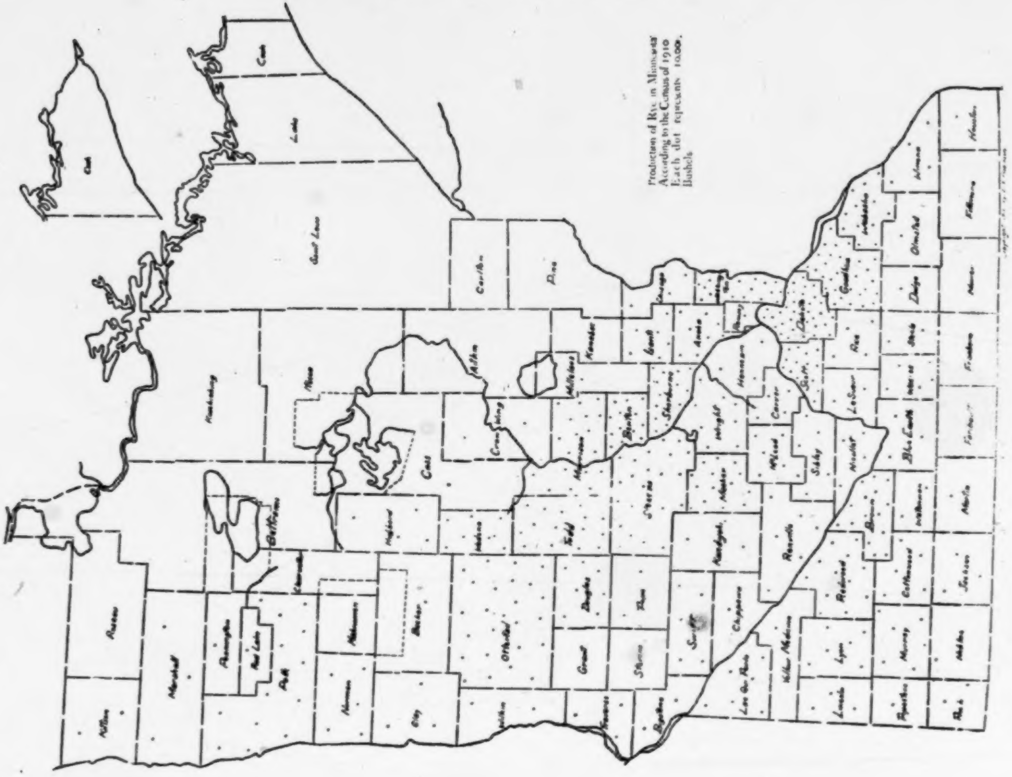
37. Production of Barley in Minnesota according to Census of 1910.
Each dot represents 10,000 Bushels.

Figure 167. Production of barley in 1909 according to census of 1910. (Based on Table XVI)



Acreage of Rye in Minnesota According to the Census of 1910. Each dot represents 1,000 acres.

Figure 168. Acreage of rye in 1909 according to census of 1910. (Based on Table XVII)



Production of Rye in Minnesota According to the Census of 1910 Each dot represents 10,000 Bushels.

Figure 169. Production of rye in 1909 according to the census of 1910. (Based on Table XVII)

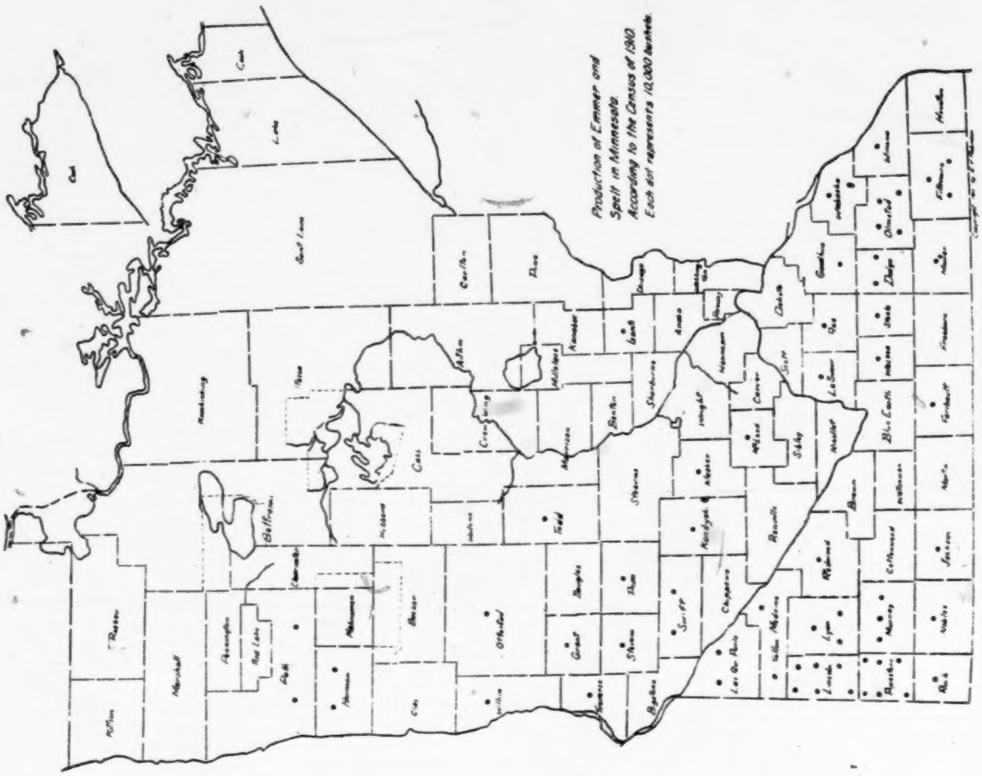

Production of Emmer and Spelt in Minnesota According to the Census of 1910 Each dot represents 10,000 bushels

Figure 171. Production of emmer and spelt in 1909 according to the census of 1910.

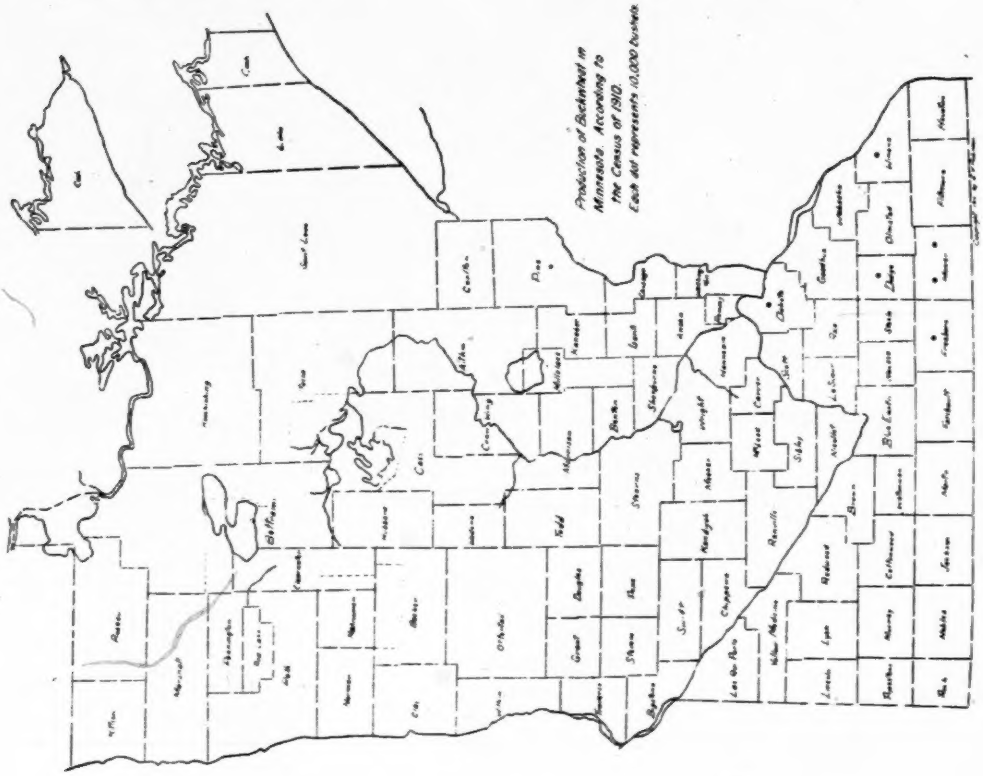
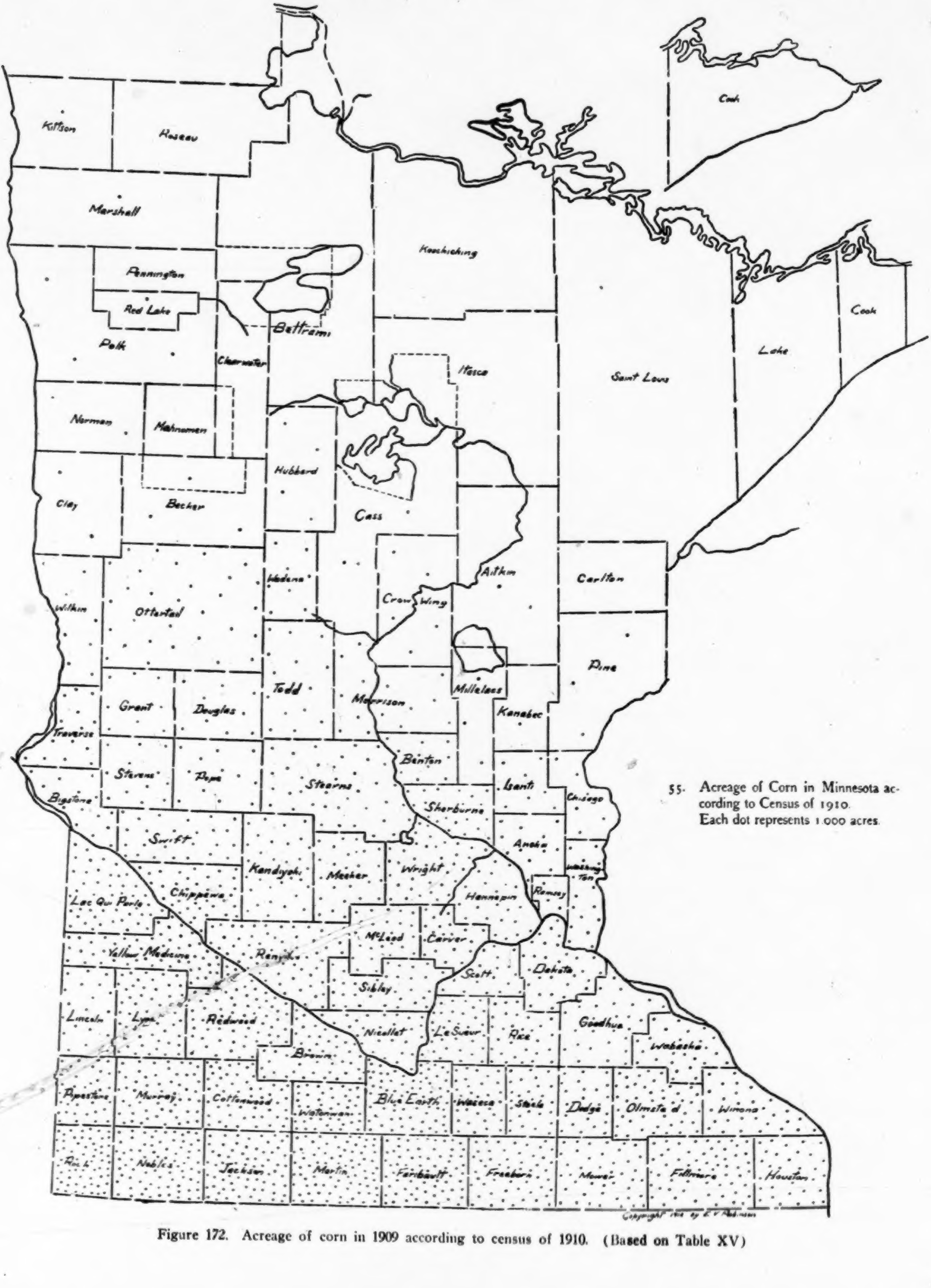
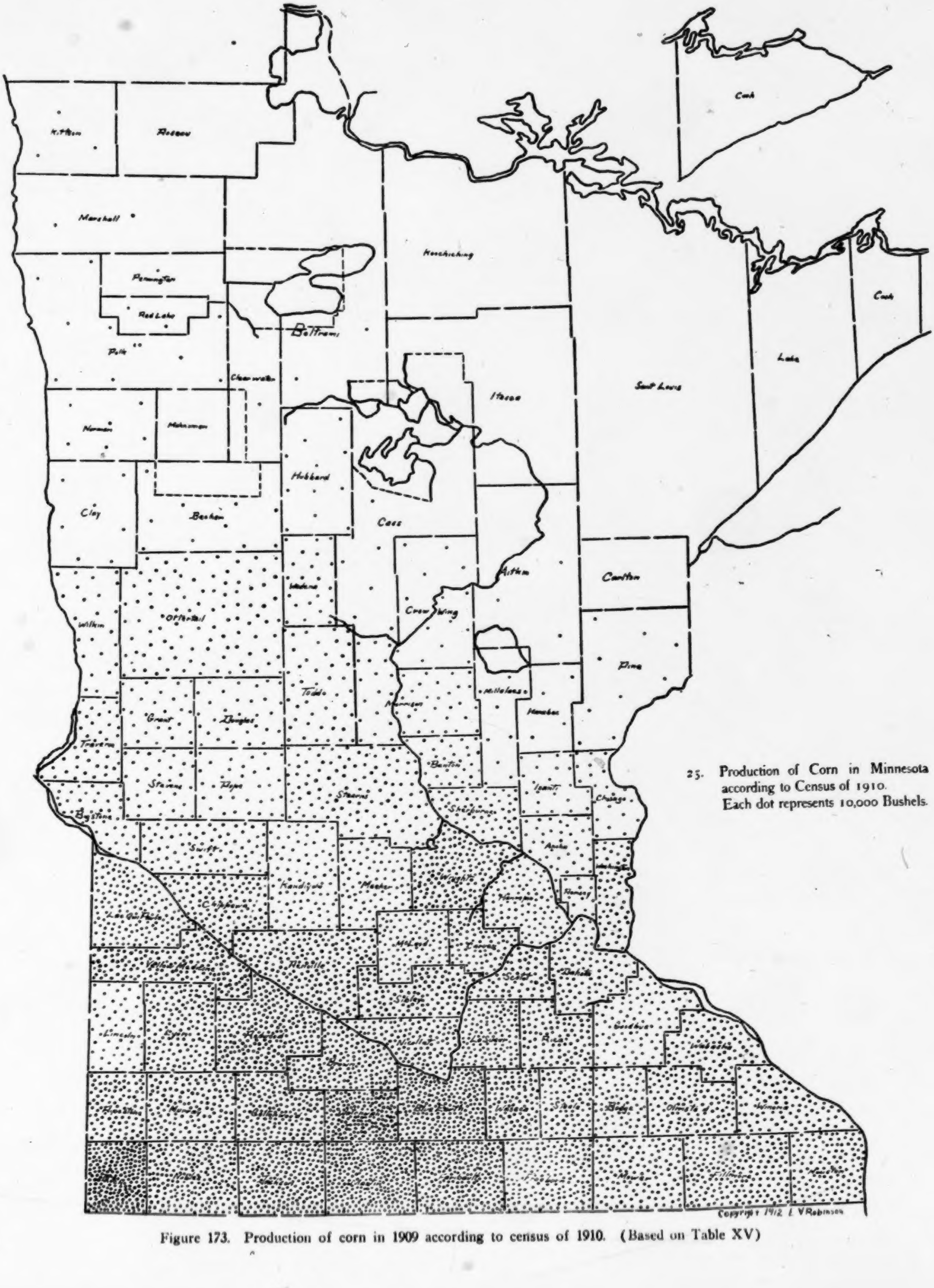

Production of Buckwheat in Minnesota. According to the Census of 1910. Each dot represents 10,000 bushels

Figure 170. Production of buckwheat in 1909 according to the census of 1910.


Kittson
Roseau
Marshall
Pennington
Red Lake
Beltrami
Koochiching
Cook
Lake
Cook
Saint Louis
Itasca
Polk
Clearwater
Norman
Mahnomen
Hubbard
Clay
Becker
Cass
Carlton
Aitkin
Wadena
Wilkin
Ottertail
Crow Wing
Pine
Mille Lacs
Todd
Grant
Douglas
Morrison
Kanabec
Traverse
Benton
Stevens
Pope
Stearns
Isanti
Chisago
Bigstone
Sherburne
Swift
Anoka
Kandiyohi
Meeker
Wright
Washington
Chippewa
Hennepin
Ramsey
Lac Qui Parle
McLeod
Carver
Yellow Medicine
Renville
Scott
Dakota
Sibley
Lincoln
Lyon
Redwood
Nicollet
Le Sueur
Rice
Goodhue
Wabasha
Brown
Pipestone
Murray
Cottonwood
Watonwan
Blue Earth
Waseca
Steele
Dodge
Olmsted
Winona
Rock
Nobles
Jackson
Martin
Faribault
Freeborn
Mower
Fillmore
Houston
Copyright [illegible] by E V Robinson

55. Acreage of Corn in Minnesota according to Census of 1910.
Each dot represents 1,000 acres.

Figure 172. Acreage of corn in 1909 according to census of 1910. **(Based on Table XV)**


Kittson
Roseau
Cook
Marshall
Koochiching
Pennington
Red Lake
Beltrami
Polk
Clearwater
Lake
Saint Louis
Itasca
Norman
Mahnomen
Hubbard
Clay
Becker
Cass
Cook
Aitkin
Carlton
Wadena
Wilkin
Otter Tail
Crow Wing
Todd
Mille Lacs
Pine
Grant
Douglas
Morrison
Kanabec
Traverse
Benton
Stevens
Pope
Stearns
Isanti
Chisago
Big Stone
Sherburne
Swift
Anoka
Kandiyohi
Meeker
Wright
Washington
Hennepin
Ramsey
Chippewa
Lac Qui Parle
McLeod
Carver
Yellow Medicine
Renville
Scott
Dakota
Sibley
Lincoln
Lyon
Redwood
Nicollet
Le Sueur
Rice
Goodhue
Wabasha
Brown
Pipestone
Murray
Cottonwood
Watonwan
Blue Earth
Waseca
Steele
Dodge
Olmsted
Winona
Nobles
Jackson
Martin
Faribault
Freeborn
Mower
Fillmore
Houston
Copyright 1912 L V Robinson

25. Production of Corn in Minnesota according to Census of 1910. Each dot represents 10,000 Bushels.

Figure 173. Production of corn in 1909 according to census of 1910. (Based on Table XV)

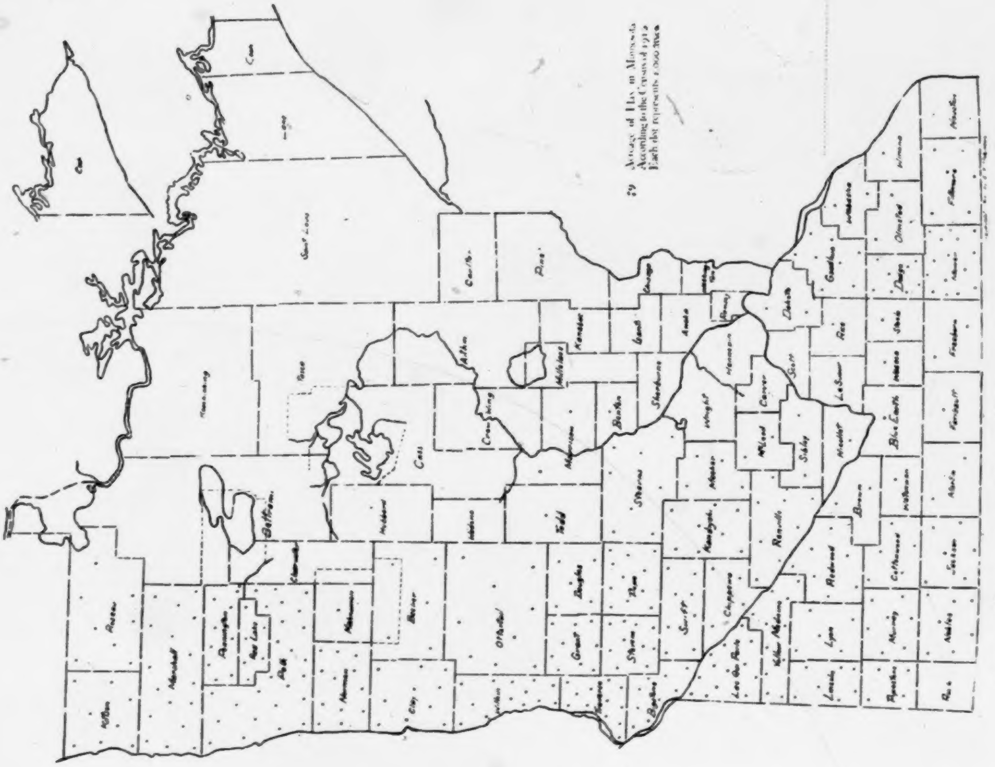

79 Acreage of Flax in Minnesota
According to the Census of 1910
Each dot represents 1,000 acres

Figure 174. Acreage of flax in 1909 according to the census of 1910. (Based on Table XIX)

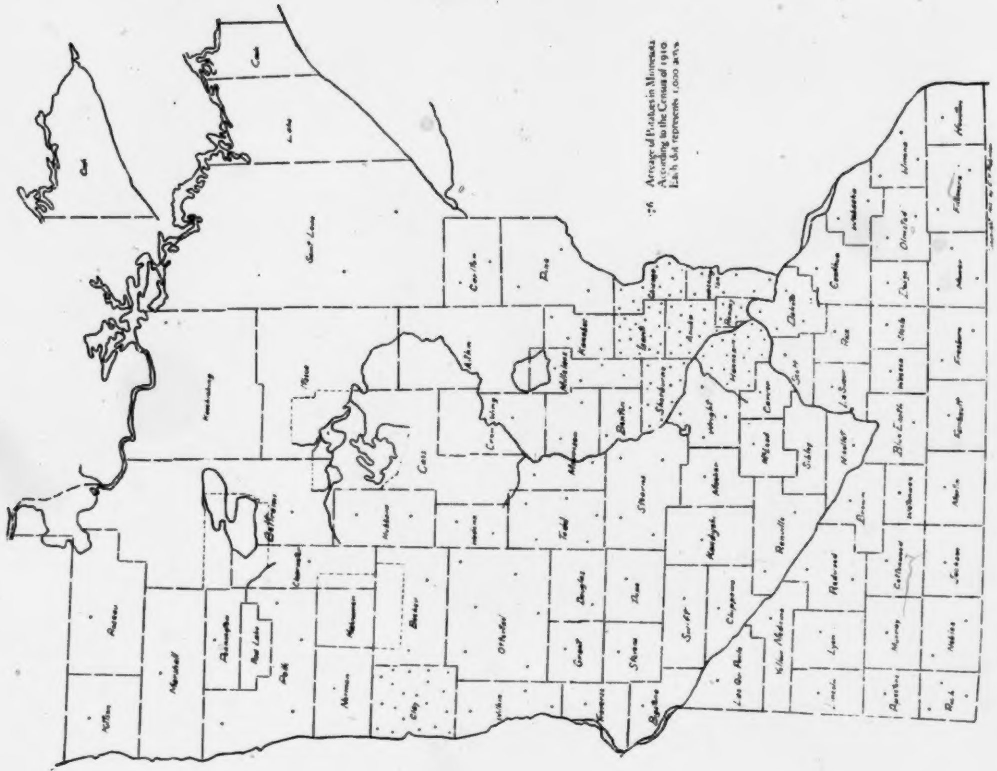
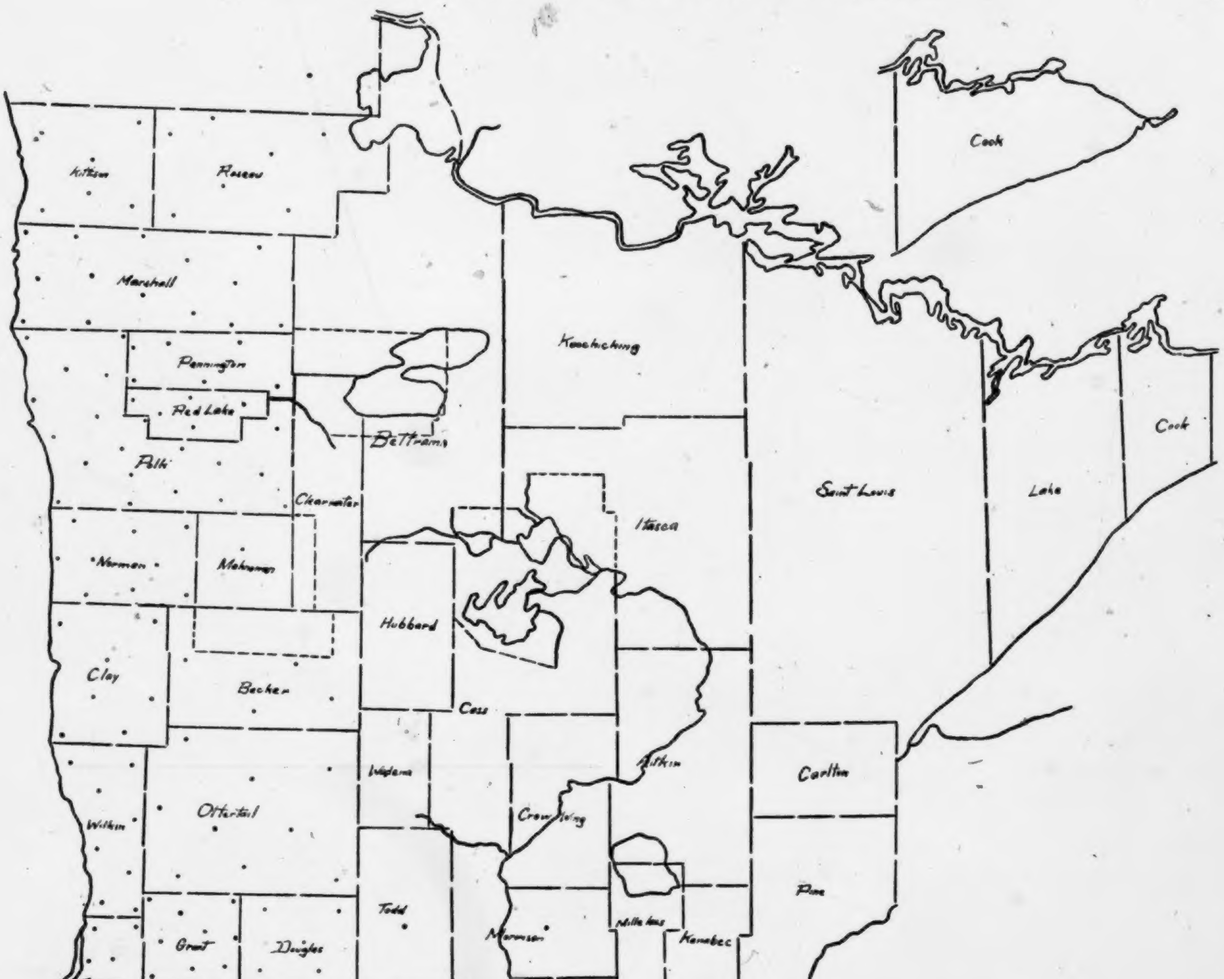

78 Acreage of Potatoes in Minnesota
According to the Census of 1910
Each dot represents 1,000 acres

Figure 175. Acreage of potatoes in 1909 according to the census of 1910. (Based on Table XVIII)


Kittson
Roseau
Marshall
Pennington
Red Lake
Polk
Beltrami
Koochiching
Cook
Cook
Lake
Saint Louis
Itasca
Clearwater
Norman
Mahnomen
Hubbard
Clay
Becker
Cass
Wadena
Ottertail
Wilkin
Crow Wing
Aitkin
Carlton
Pine
Todd
Morrison
Mille Lacs
Kanabec
Grant
Douglas
Traverse
Stevens
Pope
Stearns
Benton
Isanti
Chisago
Sherburne
Big Stone
Swift
Kandiyohi
Wright
Anoka
Washington
Meeker
Hennepin
Ramsey
Lac Qui Parle
Chippewa
McLeod
Carver
Yellow Medicine
Renville
Scott
Dakota
Sibley
Lincoln
Lyon
Redwood
Goodhue
Nicollet
Le Sueur
Rice
Wabasha
Brown
Pipestone
Murray
Cottonwood
Watonwan
Blue Earth
Waseca
Steele
Dodge
Olmsted
Winona
Rock
Nobles
Jackson
Martin
Faribault
Freeborn
Mower
Fillmore
Houston
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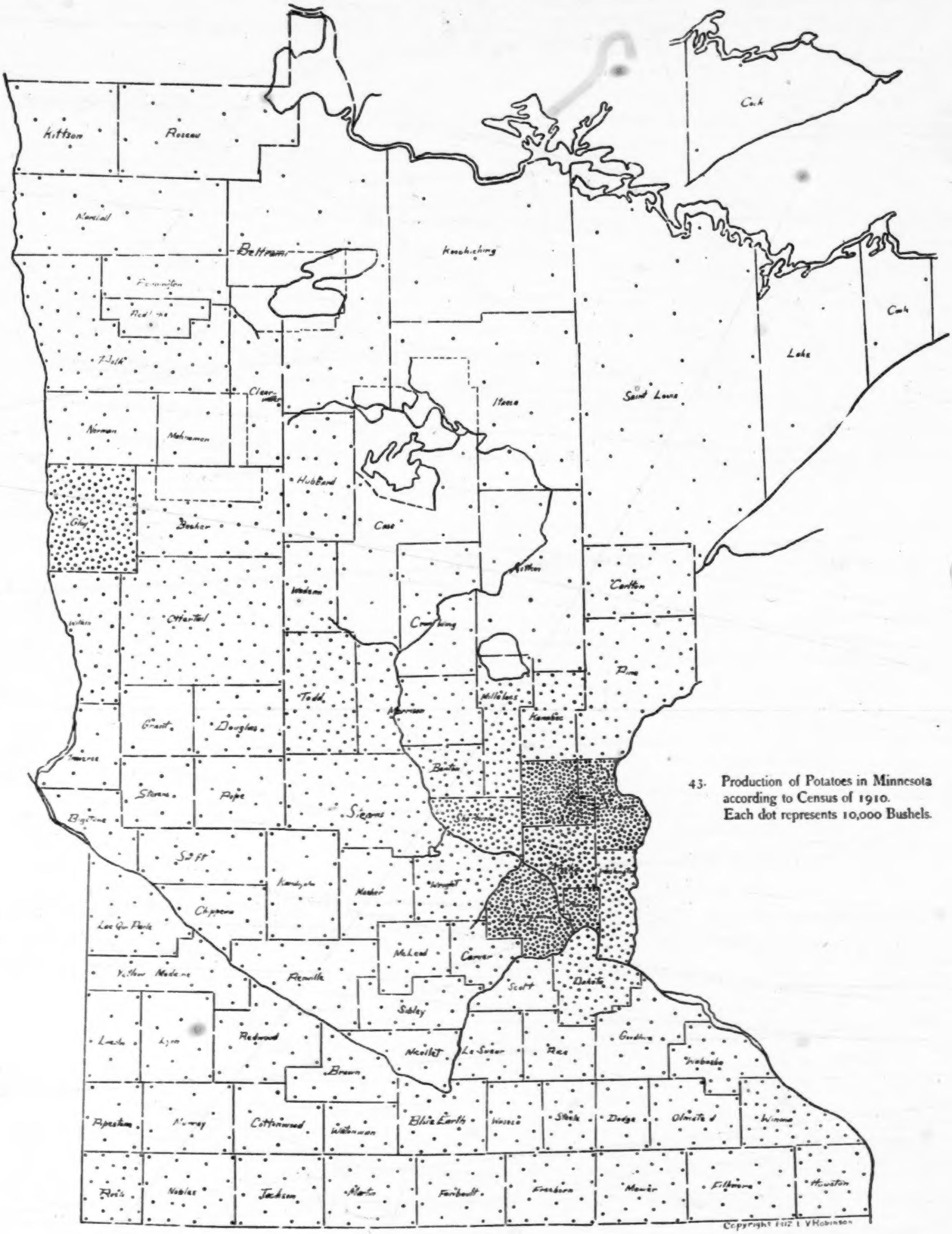
47. Production of Flaxseed in Minnesota according to Census of 1910. Each dot represents 10,000 Bushels.

Figure 176. Production of flaxseed in 1909 according to the census of 1910. (Based on Table XIX)


Kittson
Roseau
Marshall
Beltrami
Koochiching
Cook
Pennington
Red Lake
Polk
Clearwater
Lake
Itasca
Saint Louis
Cook
Norman
Mahnomen
Hubbard
Clay
Becker
Cass
Aitkin
Carlton
Wadena
Otter Tail
Crow Wing
Wilkin
Pine
Todd
Morrison
Mille Lacs
Kanabec
Grant
Douglas
Traverse
Benton
Stevens
Pope
Stearns
Sherburne
Big Stone
Swift
Kandiyohi
Meeker
Wright
Chippewa
Lac Qui Parle
McLeod
Carver
Yellow Medicine
Renville
Scott
Dakota
Sibley
Lincoln
Lyon
Redwood
Goodhue
Nicollet
Le Sueur
Rice
Wabasha
Brown
Pipestone
Murray
Cottonwood
Watonwan
Blue Earth
Waseca
Steele
Dodge
Olmsted
Winona
Rock
Nobles
Jackson
Martin
Faribault
Freeborn
Mower
Fillmore
Houston
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43. Production of Potatoes in Minnesota
according to Census of 1910.
Each dot represents 10,000 Bushels.

Figure 177. Production of potatoes in 1909 according to census of 1910. (Based on Table XVIII)

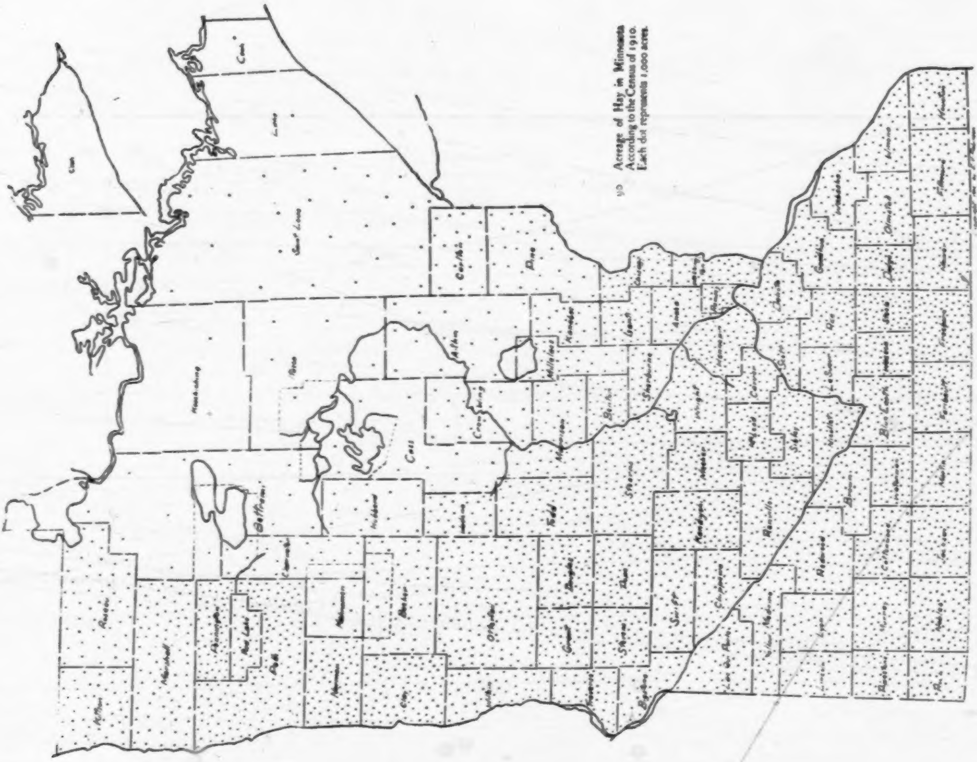
Acreage of Hay in Minnesota
According to the Census of 1910.
Each dot represents 1,000 acres.

Figure 178. Acreage of wild and cultivated hay in 1909 according to the census of 1910.

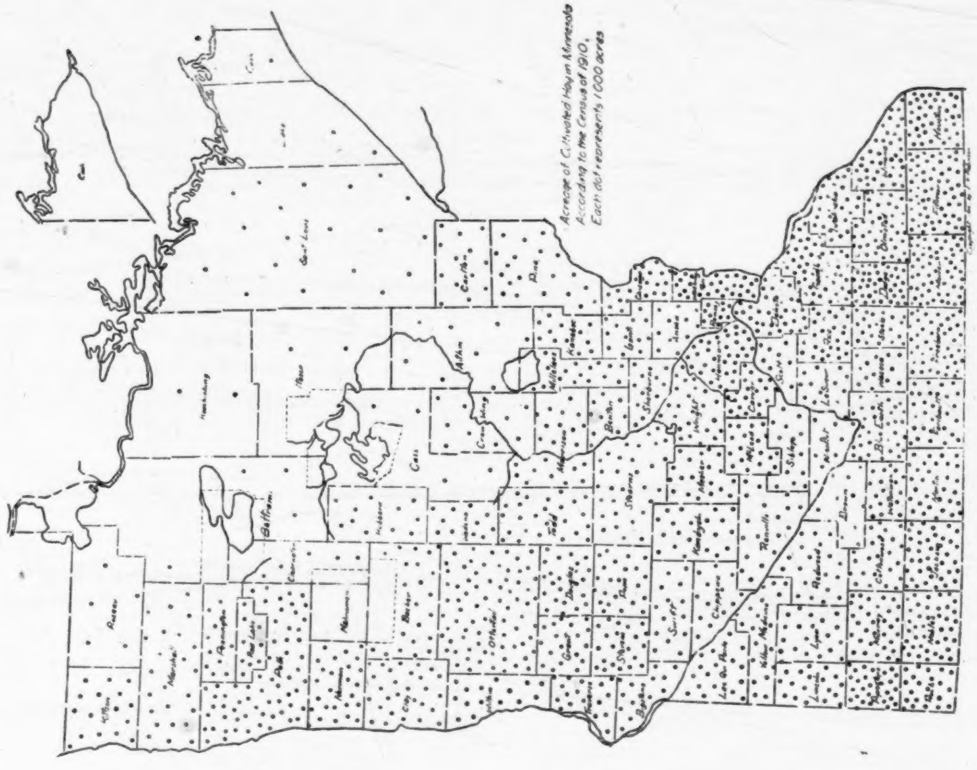
Acreage of Cultivated Hay in Minnesota
According to the Census of 1910.
Each dot represents 1,000 acres

Figure 179. Acreage of cultivated hay in 1909 according to the census of 1910.

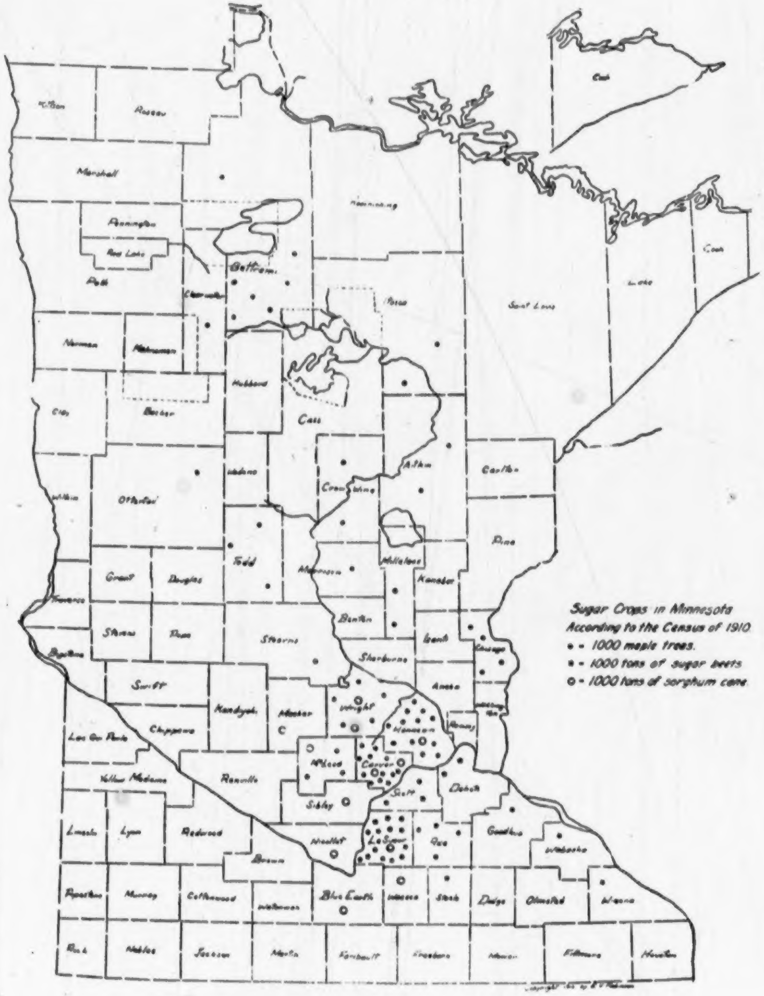
Sugar Crops in Minnesota
According to the Census of 1910
• - 1000 maple trees.
• - 1000 tons of sugar beets
○ - 1000 tons of sorghum cane

Figure 180. Sugar crops in 1909 according to the census of 1910. (Distribution of sugar beets based on Table XX)

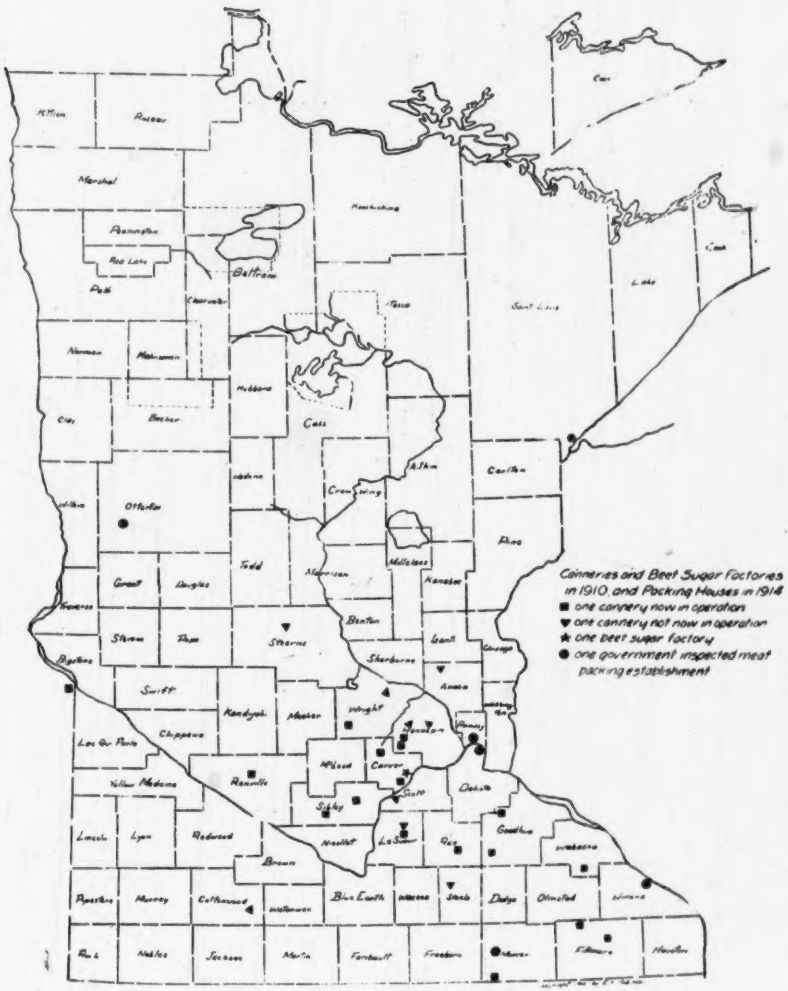
Canneries and Beet Sugar Factories in 1910, and Packing Houses in 1914
■ one cannery now in operation
▼ one cannery not now in operation
★ one beet sugar factory
● one government inspected meat packing establishment

Figure 181. Location of canneries, meat-packing establishments, and beet-sugar plants.[46]

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[46] *Report of State Dairy and Food Commissioner*, 1910, 129; and Thirteenth Census.

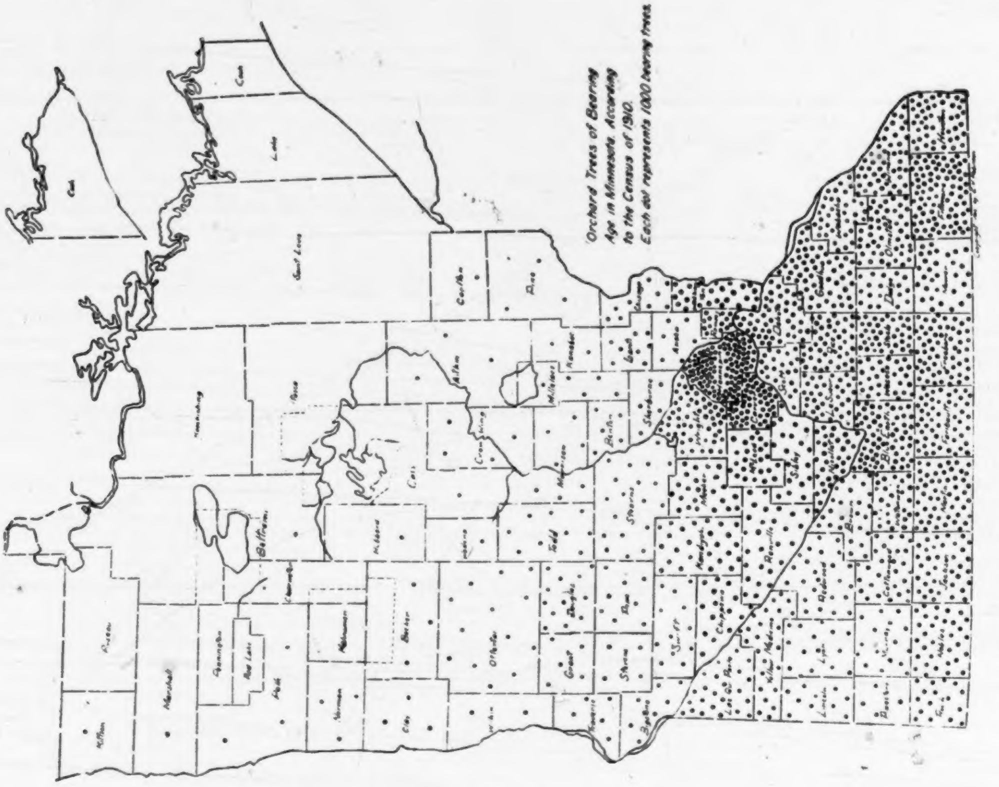
Orchard Trees of Bearing Age in Minnesota According to the Census of 1910.
Each dot represents 1000 bearing trees.

Figure 183. Orchard trees of bearing age according to the census of 1910.

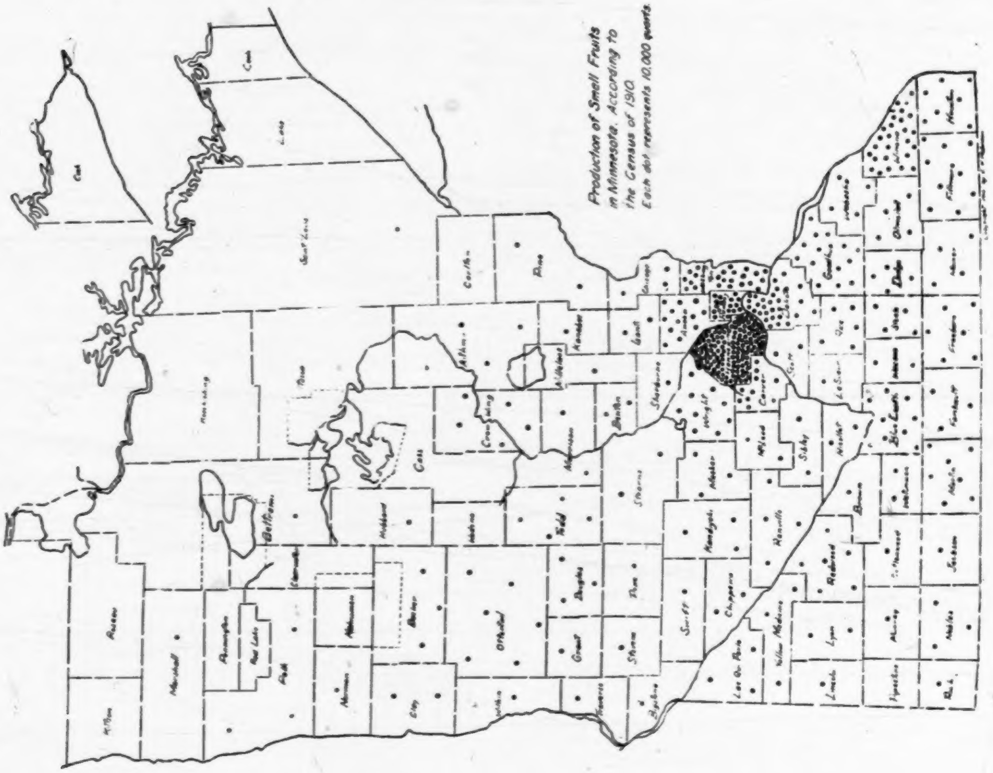
Production of Small Fruits in Minnesota. According to the Census of 1910
Each dot represents 10,000 quarts.

Figure 182. Production of small fruits in 1909 according to census of 1910.

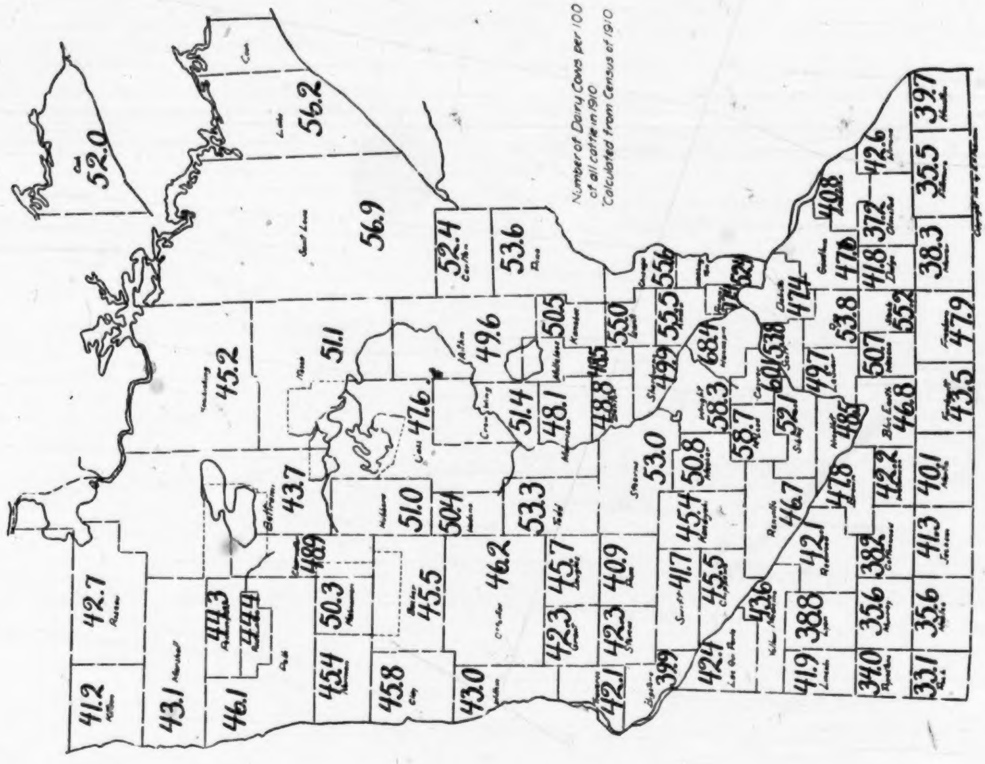
Number of Dairy Cows per 100
of all cattle in 1910
Calculated from Census of 1910
52.0
56.2
56.9
52.4
53.6
45.2
51.1
49.6
50.5
55.0
55.5
55.6
52.9
47.6
51.4
48.1
48.8
48.5
49.9
68.4
53.0
58.3
60.1
53.8
47.4
40.8
47.6
43.7
51.0
50.4
53.3
50.8
58.7
52.1
49.7
53.8
41.8
37.2
42.6
48.9
45.5
46.2
45.7
40.9
45.4
46.7
47.8
48.5
50.7
55.2
38.3
35.5
39.7
42.7
44.3
44.4
50.3
41.7
45.5
43.6
42.1
42.2
46.8
43.5
47.9
41.2
43.1
46.1
45.4
45.8
43.0
42.3
42.3
42.1
39.9
42.4
41.9
38.8
35.6
38.2
41.3
40.1
34.0
35.6
33.1

Figure 185. Number of dairy cows per 100 cattle according to census of 1910. (Based on Table XXIV)

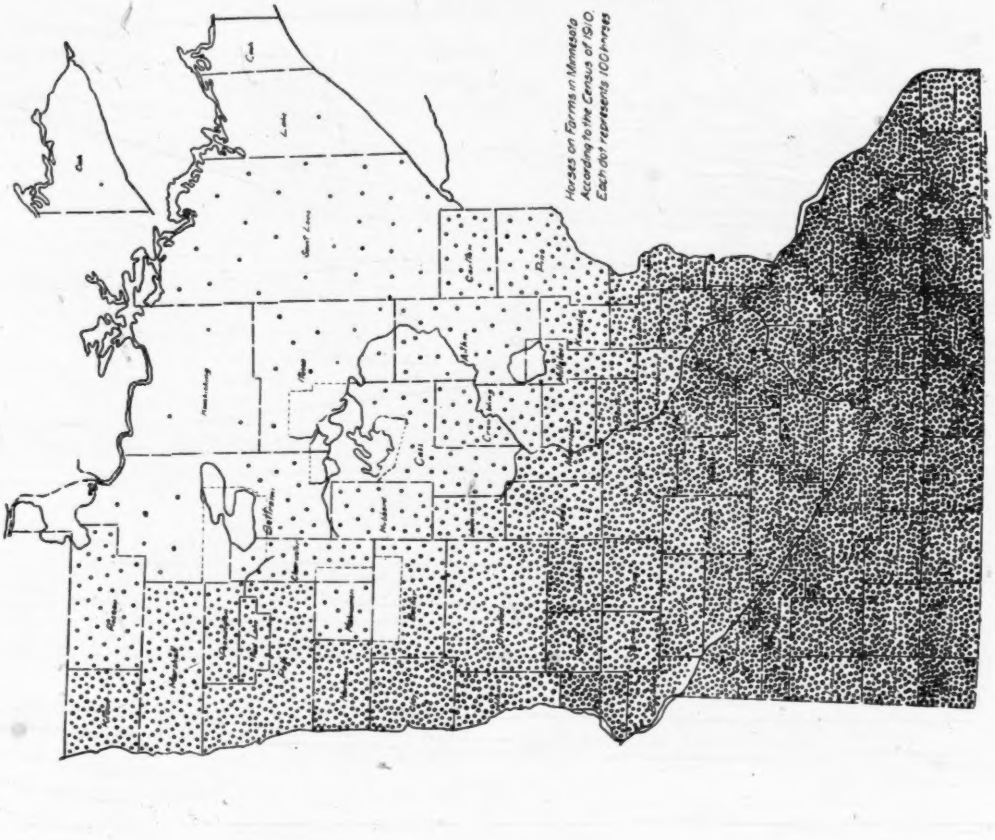
Horses on Farms in Minnesota
According to the Census of 1910.
Each dot represents 100 horses

Figure 184. Distribution of horses on farms according to census of 1910.

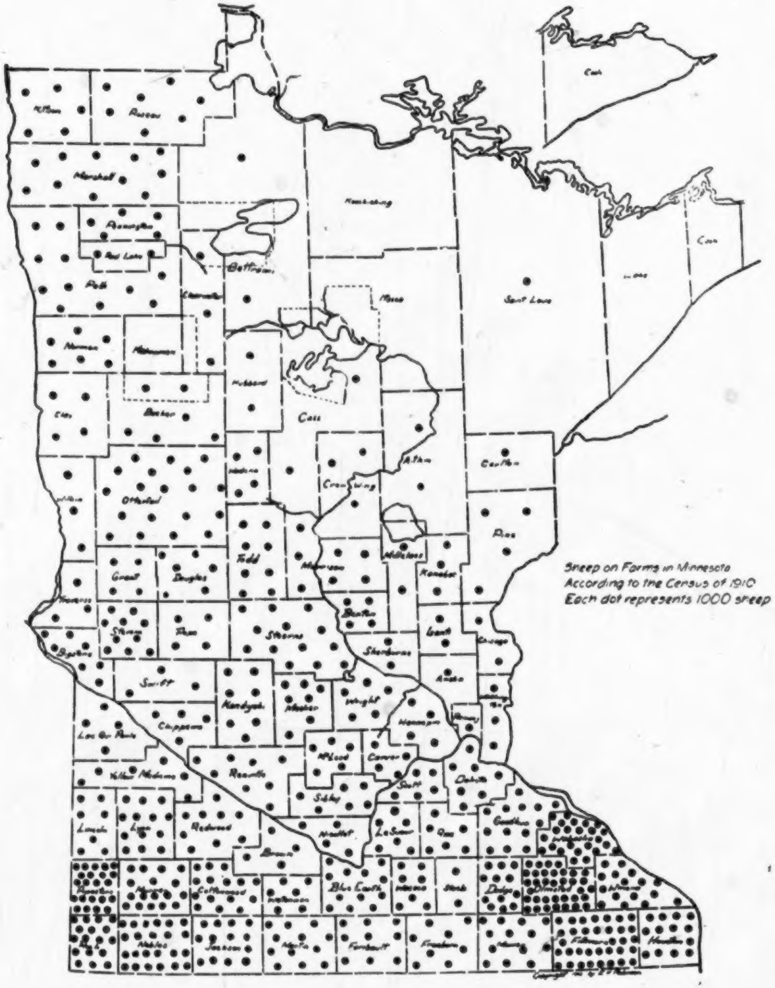
Sheep on Farms in Minnesota
According to the Census of 1910
Each dot represents 1000 sheep

Figure 186. Distribution of sheep on farms according to census of 1910.

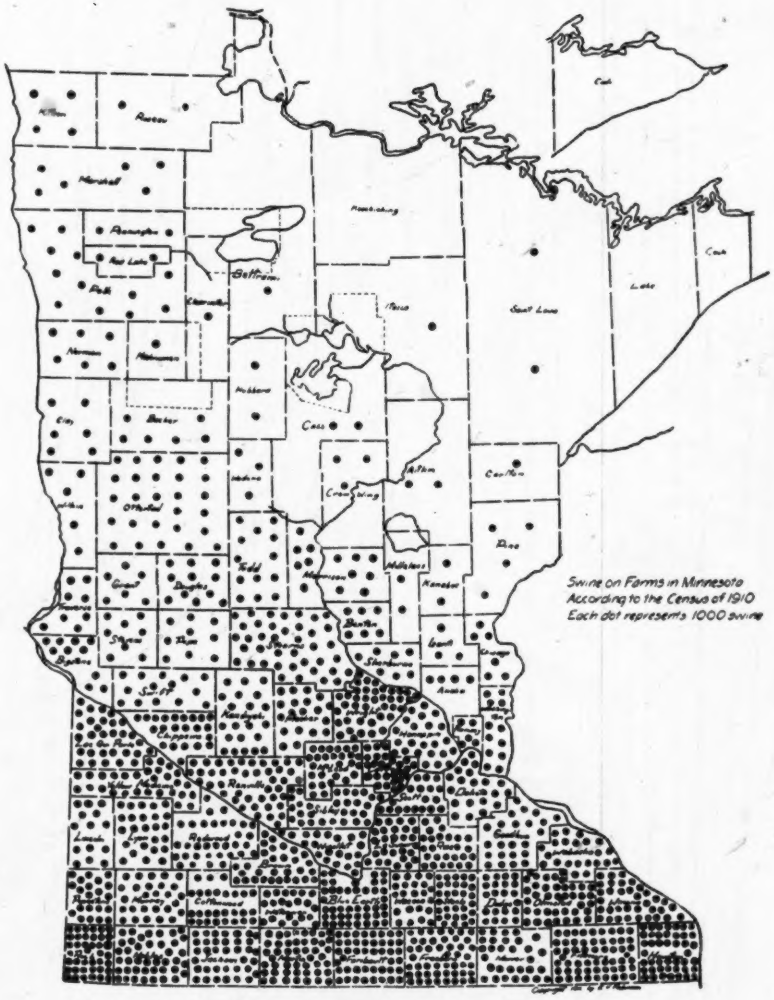
Swine on Farms in Minnesota
According to the Census of 1910
Each dot represents 1000 swine

Figure 187. Distribution of swine on farms according to the census of 1910. (Based on Table XXVII)

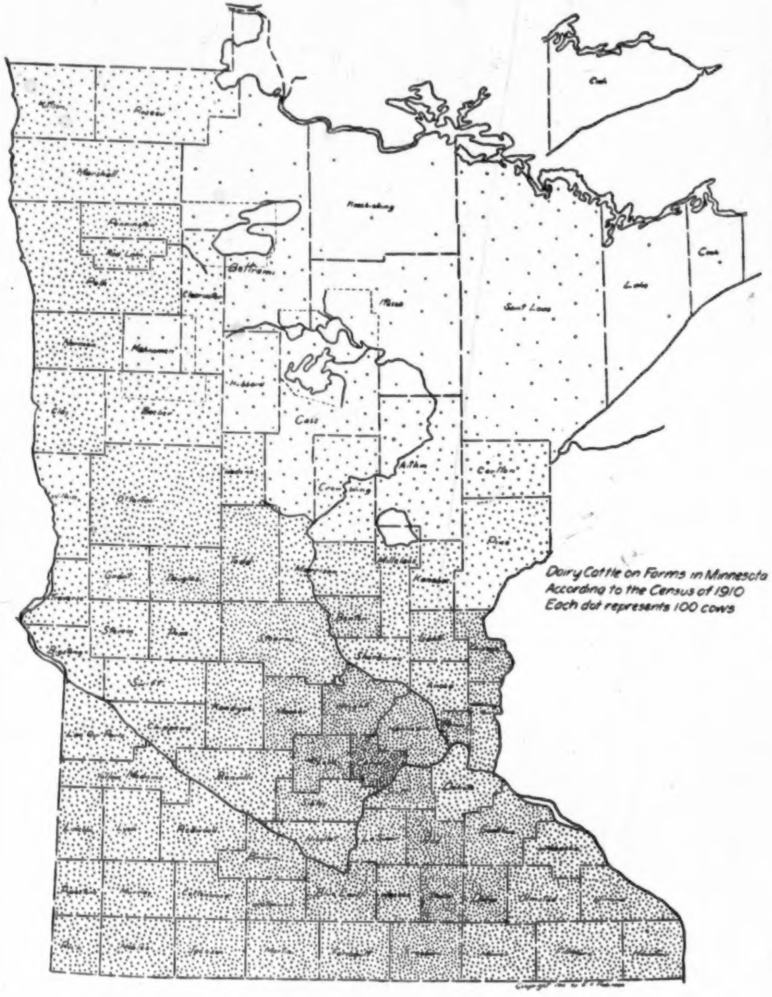
Dairy Cattle on Farms in Minnesota
According to the Census of 1910
Each dot represents 100 cows

Figure 188. Distribution of dairy cows on farms according to the census of 1910. (Based on Table XXIV.

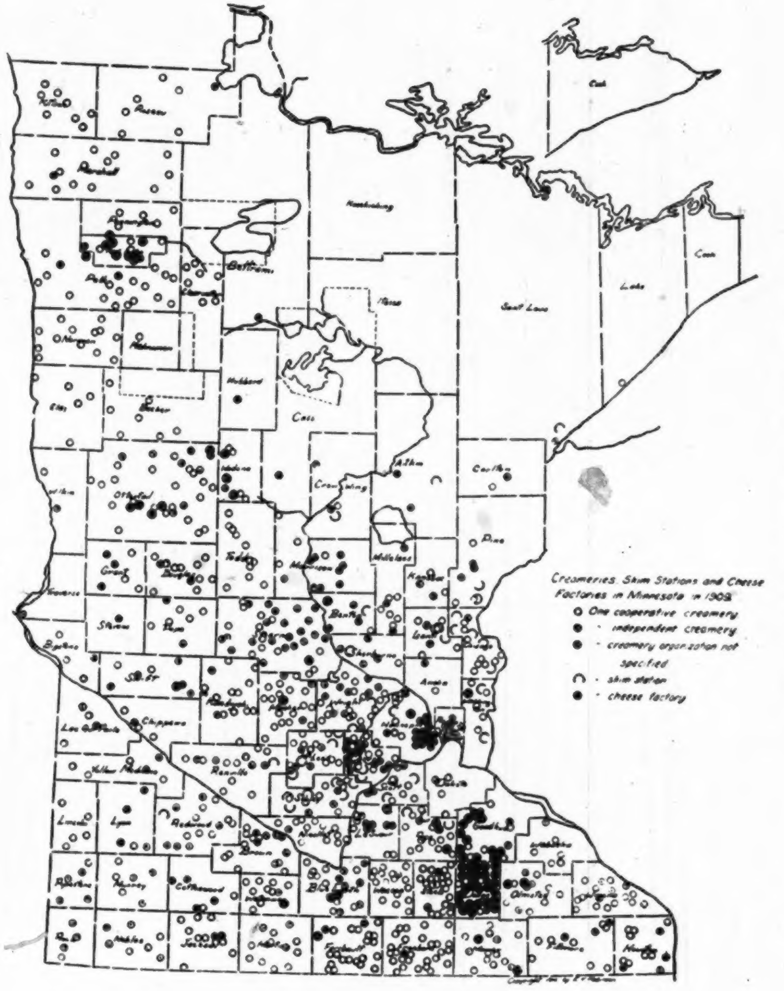
Creameries, Skim Stations and Cheese Factories in Minnesota in 1909
○ One cooperative creamery
● " independent creamery
● " creamery organization not specified
∩ " skim station
● " cheese factory

Figure 189. Distribution and organization of creameries, skim stations, and cheese factories in 1909.[46]

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[46] *Report of State Dairy and Food Commissioner*, 1909, 54-79.

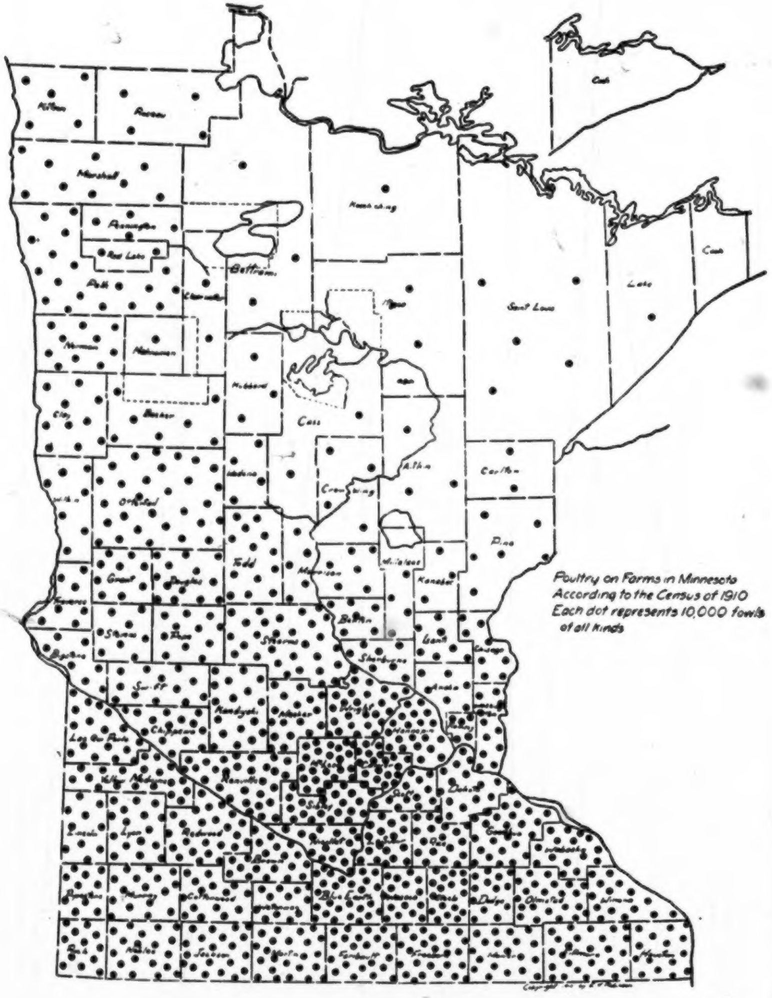
Poultry on Farms in Minnesota
According to the Census of 1910
Each dot represents 10,000 fowls of all kinds

Figure 190. Distribution of poultry on farms according to the census of 1910. (Based on Table XXVIII)

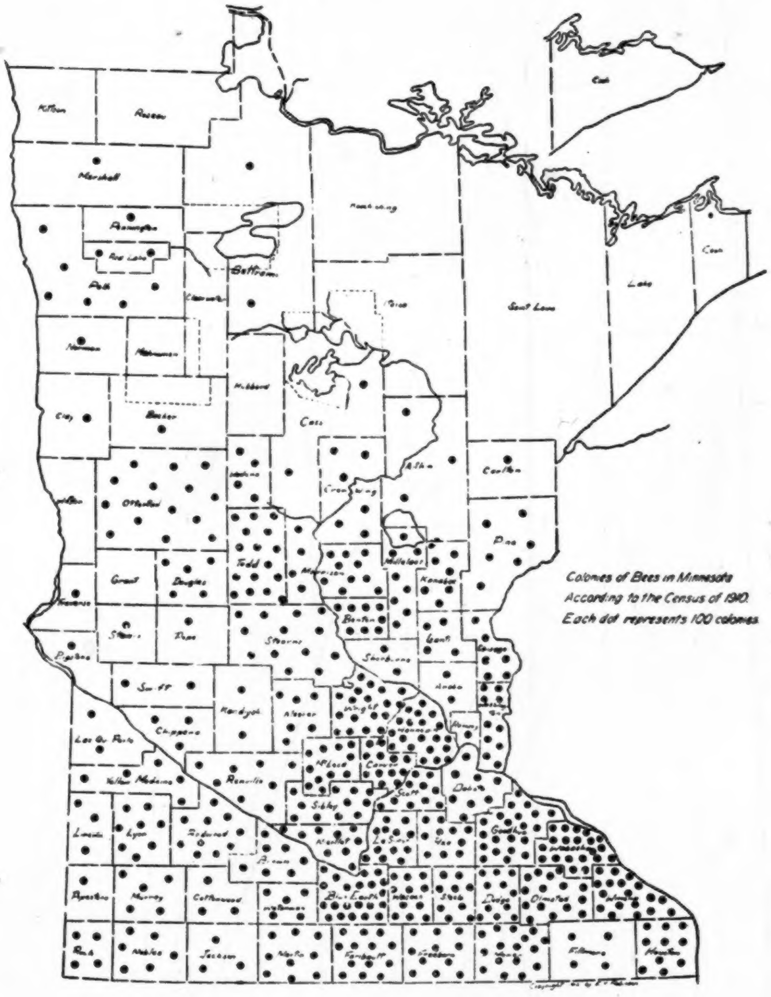
Colonies of Bees in Minnesota
According to the Census of 1910
Each dot represents 100 colonies

Figure 191. Distribution of bees on farms according to the census of 1910. (Based on Table XXIX)

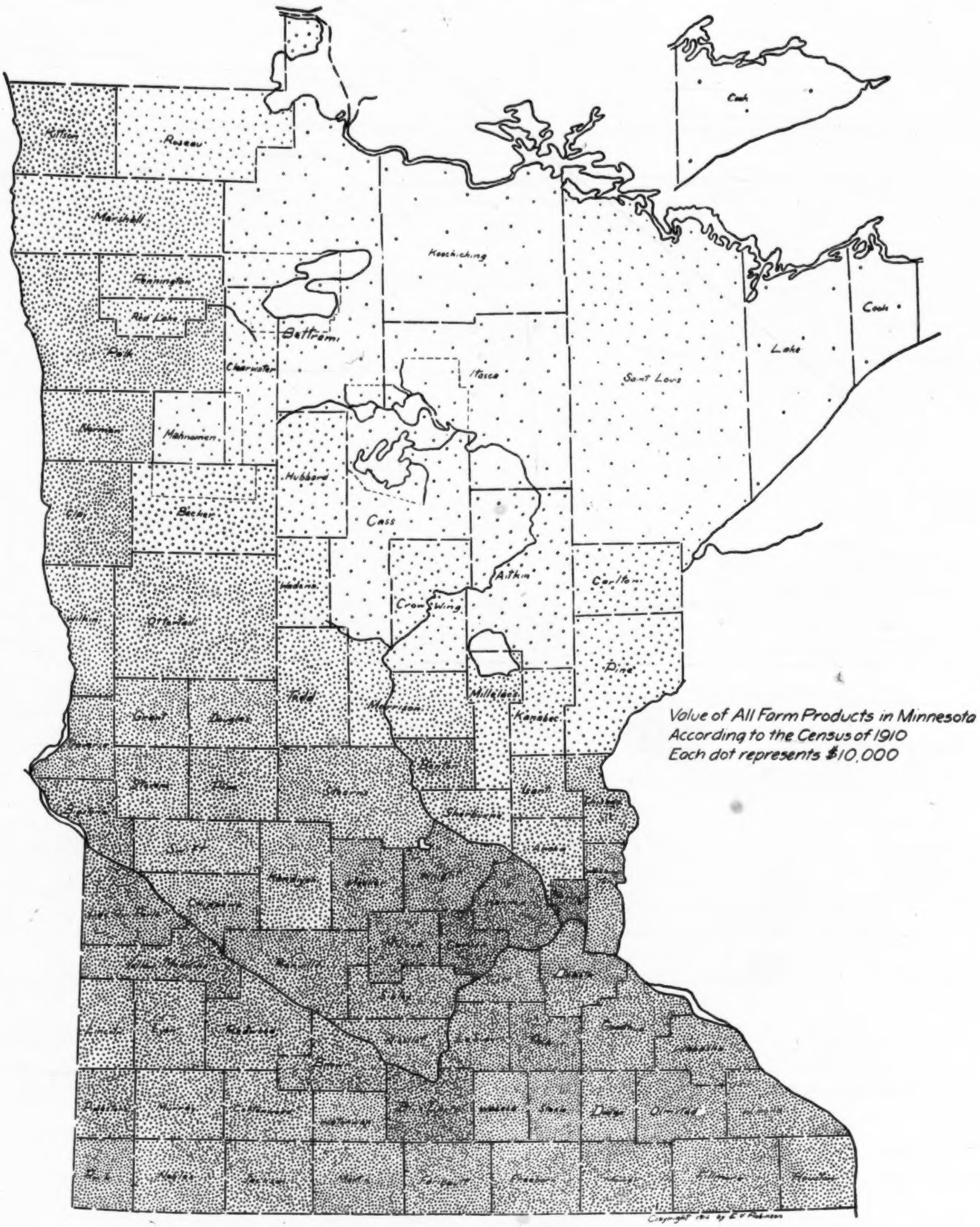
Value of All Farm Products in Minnesota
According to the Census of 1910
Each dot represents $10,000
Kittson
Roseau
Marshall
Pennington
Red Lake
Polk
Norman
Mahnomen
Clay
Becker
Clearwater
Beltrami
Hubbard
Cass
Koochiching
Itasca
Saint Louis
Lake
Cook
Carlton
Aitkin
Crow Wing
Wadena
Otter Tail
Wilkin
Pine
Mille Lacs
Kanabec
Todd
Morrison
Grant
Douglas
Benton
Stevens
Pope
Stearns
Isanti
Chisago
Sherburne
Anoka
Swift
Kandiyohi
Meeker
Wright
Ramsey
Hennepin
Chippewa
Renville
McLeod
Carver
Scott
Dakota
Sibley
Goodhue
Redwood
Lyon
Lincoln
Brown
Nicollet
Le Sueur
Rice
Wabasha
Pipestone
Murray
Cottonwood
Watonwan
Blue Earth
Waseca
Steele
Dodge
Olmsted
Winona
Rock
Nobles
Jackson
Martin
Faribault
Freeborn
Mower
Fillmore
Houston

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Figure 192. Distribution of value of farm products in 1909 according to census of 1910. (Based on Table XXXV)

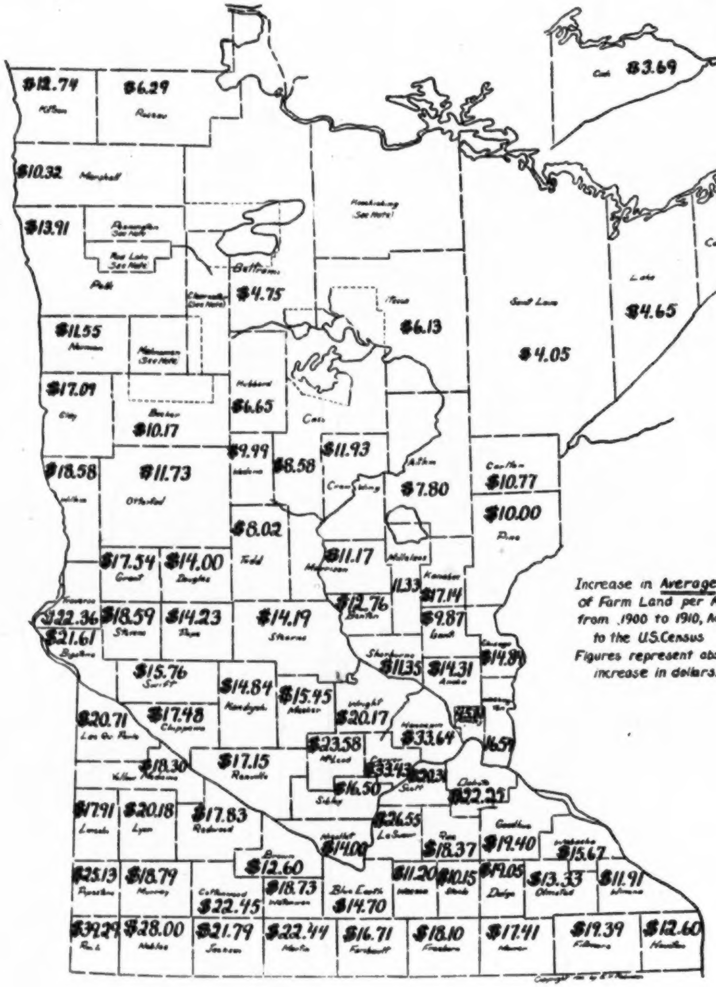
Increase in Average Value of Farm Land per Acre from 1900 to 1910, According to the U.S. Census
Figures represent absolute increase in dollars.
$12.74
$6.29
$3.69
$10.32
$13.91
$4.75
$6.13
$4.05
$4.65
$11.55
$17.09
$10.17
$6.65
$9.99
$8.58
$11.93
$7.80
$10.77
$10.00
$18.58
$11.73
$8.02
$11.17
$17.14
$17.54
$14.00
$22.36
$21.61
$18.59
$14.23
$14.19
$12.76
$9.87
$11.35
$14.31
$15.76
$14.84
$15.45
$20.17
$20.71
$17.48
$23.58
$33.64
$18.30
$17.15
$16.50
$22.25
$17.91
$20.18
$17.83
$26.55
$18.37
$19.40
$15.67
$14.00
$12.60
$25.13
$18.79
$22.45
$18.73
$14.70
$11.20
$10.15
$19.05
$13.33
$11.91
$39.29
$28.00
$21.79
$22.44
$16.71
$18.10
$17.41
$19.39
$12.60

Figure 193. Increase in average value of farm land per acre, 1900-1910.[47]

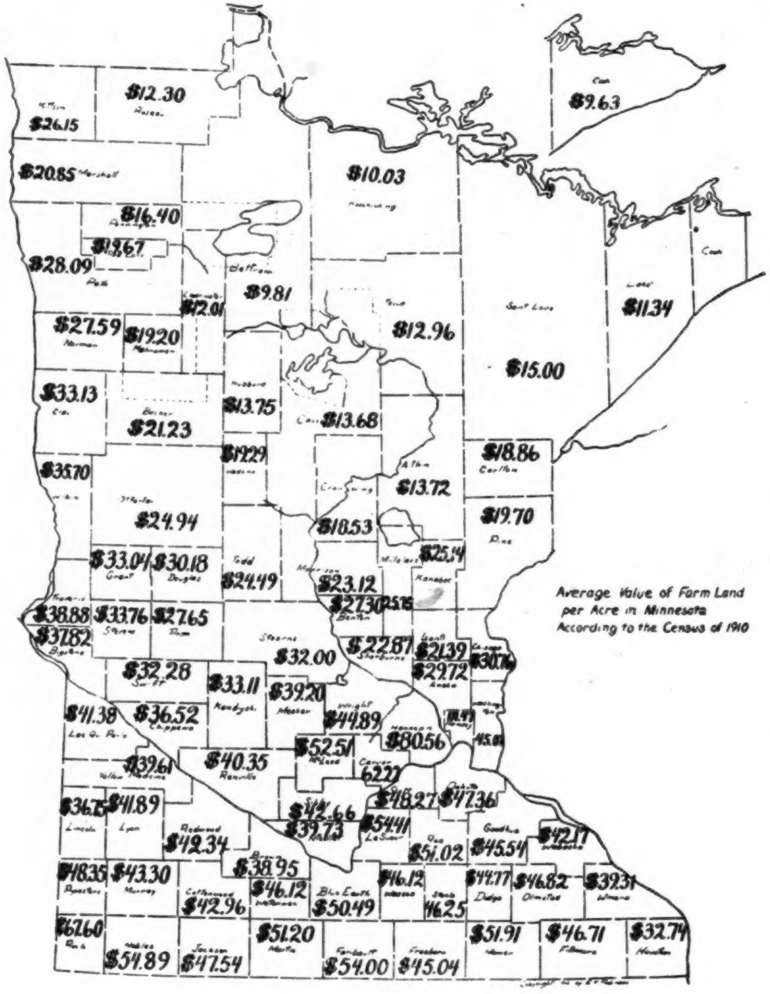
Average Value of Farm Land per Acre in Minnesota According to the Census of 1910
$26.15
$12.30
$9.63
$20.85
$10.03
$16.40
$19.67
$28.09
$9.81
$12.01
$11.34
$27.59
$19.20
$12.96
$15.00
$33.13
$13.75
$13.68
$21.23
$12.29
$35.70
$13.72
$18.86
$24.94
$18.53
$19.70
$33.04
$30.18
$24.49
$23.12
$25.14
$38.88
$33.76
$27.65
$27.30
$37.82
$32.00
$22.87
$21.39
$29.72
$32.28
$33.11
$39.20
$41.38
$36.52
$44.89
$80.56
$52.51
$40.35
$39.61
$62.27
$36.75
$41.89
$42.66
$39.73
$48.27
$47.36
$54.41
$42.34
$51.02
$45.54
$42.17
$48.35
$43.30
$38.95
$46.12
$50.49
$46.12
$46.25
$44.77
$46.82
$39.31
$42.96
$61.60
$54.89
$47.54
$51.20
$54.00
$45.04
$51.91
$46.71
$32.74

Figure 194. Average value of farm land per acre according to census of 1910. (Average for state, $36.82)

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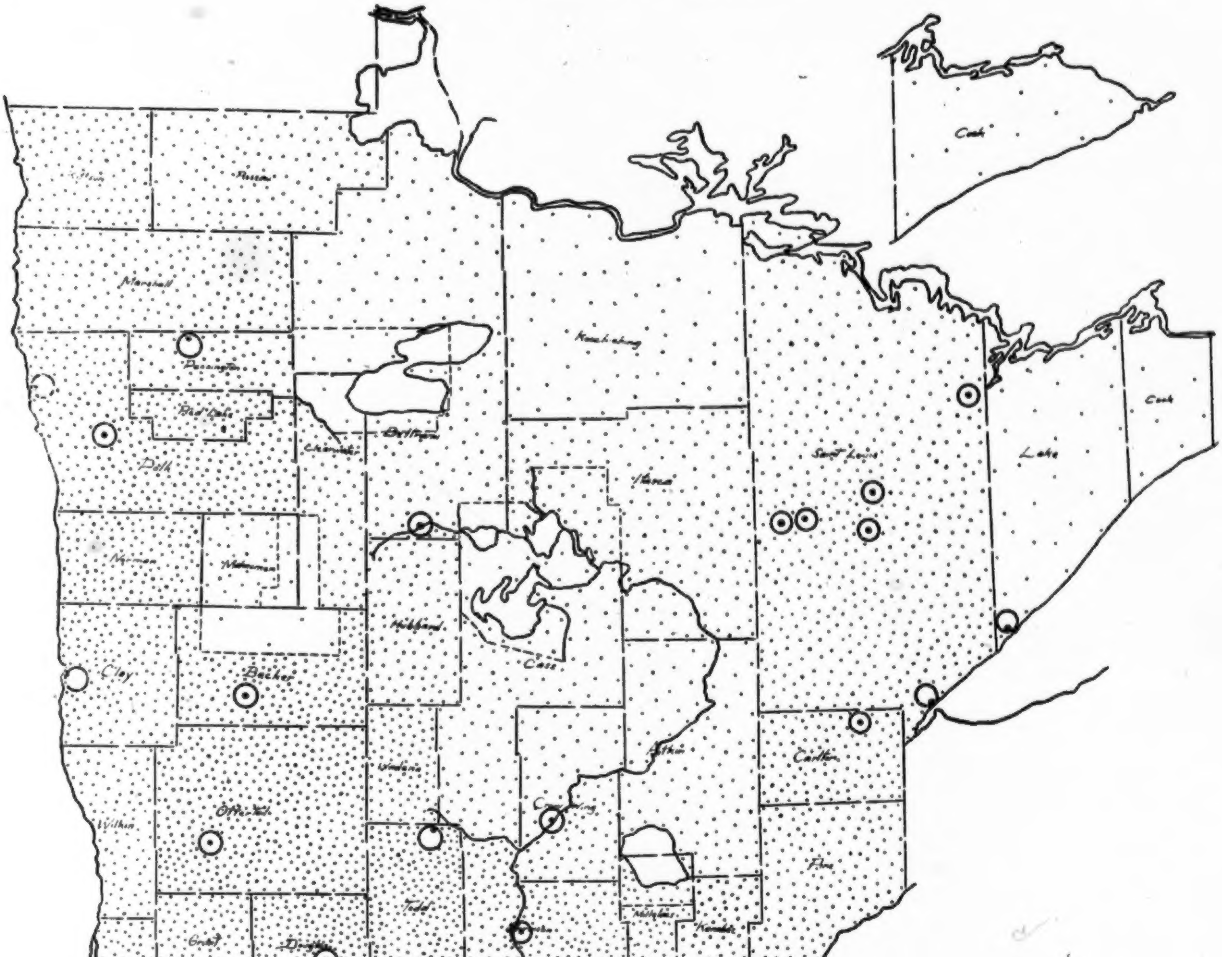
[47] Counties left blank were formed or had their boundaries changed during the decade, so that a fair comparison is not possible.


Kittson
Roseau
Marshall
Pennington
Red Lake
Polk
Norman
Mahnomen
Clay
Becker
Wilkin
Otter Tail
Grant
Douglas
Traverse
Stevens
Pope
Big Stone
Swift
Lac Qui Parle
Yellow Medicine
Koochiching
Beltrami
Clearwater
Itasca
Hubbard
Cass
Wadena
Todd
Crow Wing
Aitkin
Saint Louis
Lake
Cook
Carlton
Pine
Kanabec
Mille Lacs
Benton
Stearns
Sherburne
Isanti
Chisago
Anoka
Wright
Meeker
Kandiyohi
Chippewa
Renville
McLeod
Carver
Scott
Dakota
Sibley
Nicollet
Rice
Goodhue
Wabasha
Brown
Redwood
Lyon
Lincoln
Pipestone
Murray
Cottonwood
Watonwan
Blue Earth
Waseca
Steele
Dodge
Olmsted
Winona
Rock
Nobles
Jackson
Martin
Freeborn
Mower
Fillmore
Houston
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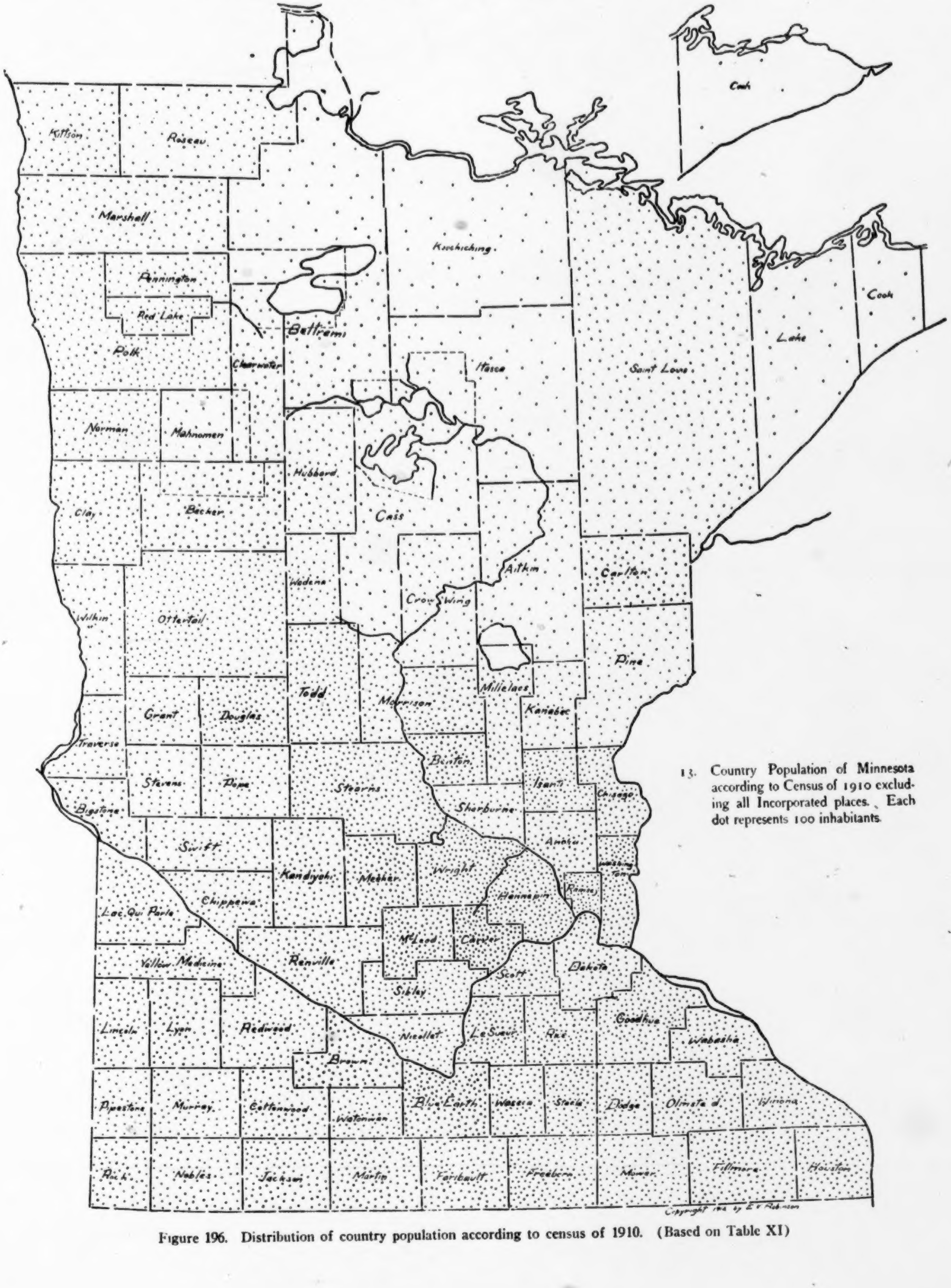
6. Rural Population of Minnesota according to Census of 1910 including Cities and Villages of less than 2500 Population.
Each dot represents 100 Inhabitants.
Each circle represents Incorporated Place of 2500 or more Inhabitants.

Figure 195. Distribution of population according to census of 1910. (Based on Table XI)

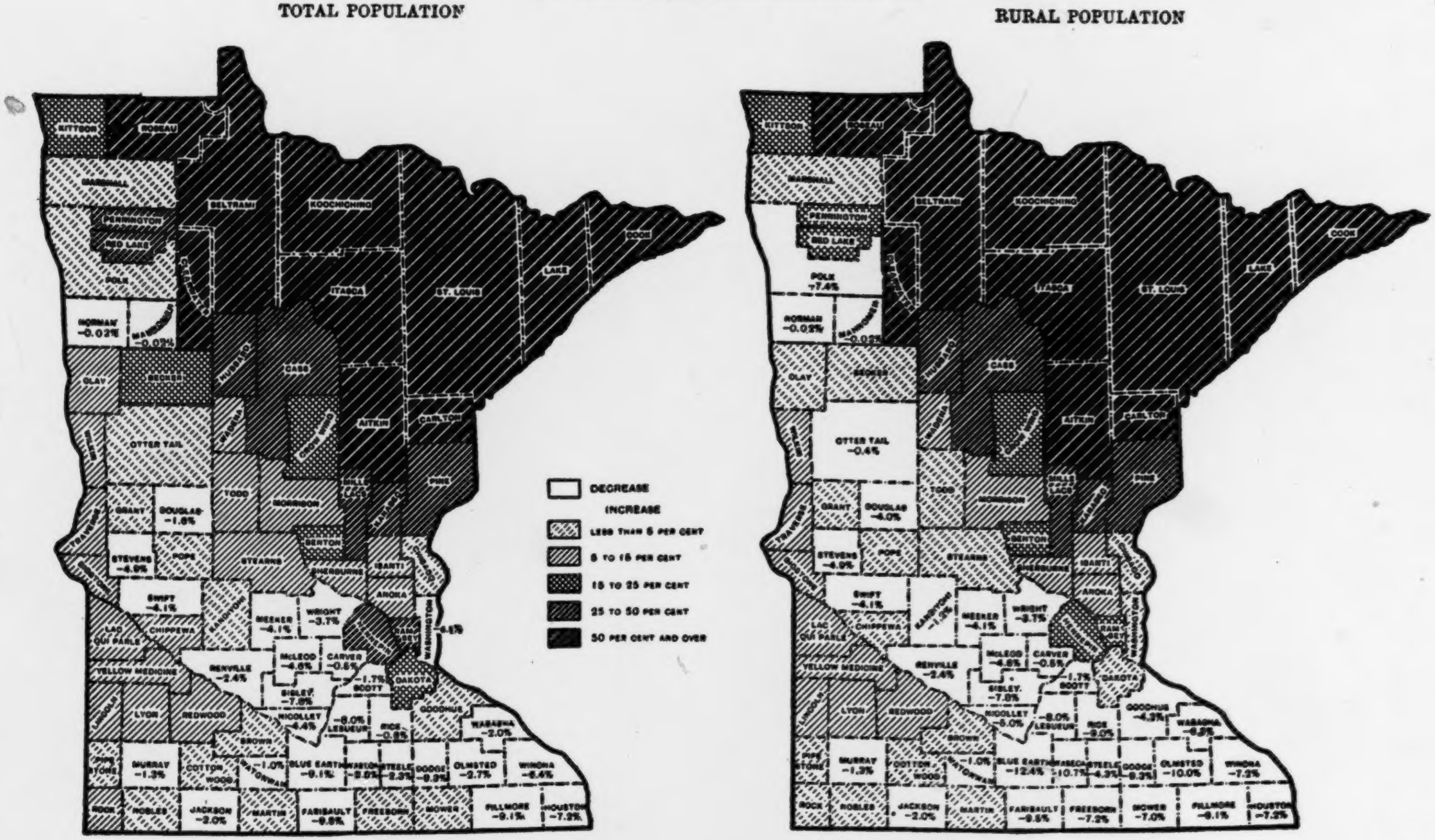

Cook
Kittson
Roseau
Marshall
Koochiching
Pennington
Red Lake
Beltrami
Cook
Lake
Polk
Clearwater
Itasca
Saint Louis
Norman
Mahnomen
Hubbard
Clay
Becker
Cass
Wadena
Aitkin
Carlton
Crow Wing
Wilkin
Ottertail
Pine
Todd
Morrison
Millelacs
Kanabec
Grant
Douglas
Traverse
Benton
Stevens
Pope
Stearns
Isanti
Chisago
Bigstone
Sherburne
Swift
Anoka
Washington
Kandiyohi
Meeker
Wright
Hennepin
Ramsey
Chippewa
Lac Qui Parle
McLeod
Carver
Yellow Medicine
Renville
Scott
Dakota
Sibley
Goodhue
Lincoln
Lyon
Redwood
Nicollet
LeSueur
Rice
Wabasha
Brown
Pipestone
Murray
Cottonwood
Watonwan
Blue Earth
Waseca
Steele
Dodge
Olmsted
Winona
Rock
Nobles
Jackson
Martin
Faribault
Freeborn
Mower
Fillmore
Houston
Copyright 1914 by E V Robinson

13. Country Population of Minnesota according to Census of 1910 excluding all Incorporated places. Each dot represents 100 inhabitants.

Figure 196. Distribution of country population according to census of 1910. (Based on Table XI)

PER CENT OF INCREASE OR DECREASE OF POPULATION OF MINNESOTA, BY COUNTIES: 1900–1910

In case of decrease the per cent is inserted under the county name


TOTAL POPULATION
KITTSON
ROSEAU
MARSHALL
PENNINGTON
RED LAKE
POLK
NORMAN
−0.02%
−0.02%
BELTRAMI
KOOCHICHING
ITASCA
ST. LOUIS
LAKE
COOK
HUBBARD
CASS
CLAY
BECKER
WADENA
CROW WING
AITKIN
CARLTON
OTTER TAIL
TODD
MORRISON
MILLE LACS
KANABEC
PINE
TRAVERSE
GRANT
DOUGLAS
−1.8%
STEVENS
−4.9%
POPE
STEARNS
BENTON
SHERBURNE
ISANTI
ANOKA
SWIFT
−4.1%
KANDIYOHI
MEEKER
−4.1%
WRIGHT
−3.7%
WASHINGTON
LAC QUI PARLE
CHIPPEWA
McLEOD
−4.6%
CARVER
−0.6%
YELLOW MEDICINE
RENVILLE
−2.4%
−1.7%
SCOTT
DAKOTA
SIBLEY
−7.6%
LINCOLN
LYON
REDWOOD
NICOLLET
−4.4%
−6.0%
LESUEUR
RICE
GOODHUE
WABASHA
−2.0%
BROWN
PIPESTONE
MURRAY
−1.3%
COTTONWOOD
WATONWAN
−1.0%
BLUE EARTH
−9.1%
STEELE
−2.3%
DODGE
OLMSTED
−2.7%
WINONA
ROCK
NOBLES
JACKSON
−2.0%
MARTIN
FARIBAULT
FREEBORN
MOWER
FILLMORE
−9.1%
HOUSTON
−7.2%
DECREASE
INCREASE
LESS THAN 5 PER CENT
5 TO 15 PER CENT
15 TO 25 PER CENT
25 TO 50 PER CENT
50 PER CENT AND OVER
RURAL POPULATION
POLK
−7.4%
NORMAN
−0.02%
−0.02%
OTTER TAIL
−0.4%
DOUGLAS
−4.0%
STEVENS
−4.0%
SWIFT
−4.1%
MEEKER
−4.1%
WRIGHT
−3.7%
McLEOD
−4.8%
CARVER
−0.5%
RENVILLE
−2.4%
−1.7%
SCOTT
SIBLEY
−7.8%
NICOLLET
−5.0%
−8.0%
LESUEUR
RICE
−9.0%
GOODHUE
−4.3%
MURRAY
−1.3%
−1.0%
BLUE EARTH
−12.4%
WASECA
−10.7%
STEELE
−4.3%
DODGE
−9.3%
OLMSTED
−10.0%
WINONA
−7.2%
JACKSON
−2.0%
FARIBAULT
−9.5%
FREEBORN
−7.2%
MOWER
−7.0%
FILLMORE
−9.1%
HOUSTON
−7.2%

Rural population is defined as that residing outside of incorporated places having 2,500 inhabitants or more.

Figure 197. Percentage of change in total and in rural population, 1900-1910.[48]

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[48] Map from the Thirteenth Census.

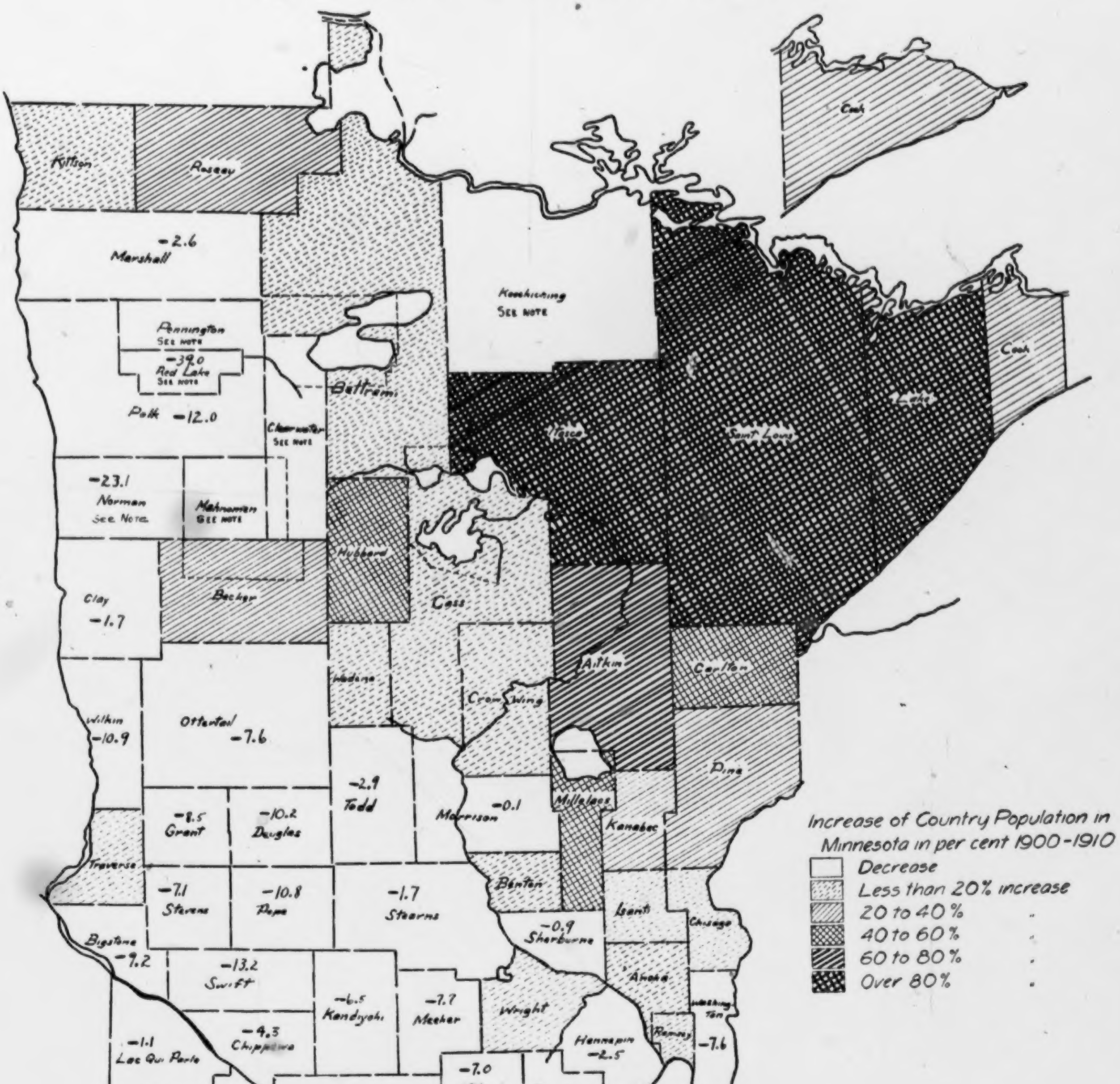
Kittson
Roseau
Cook
−2.6
Marshall
Koochiching
See note
Pennington
See note
−39.0
Red Lake
See note
Beltrami
Polk −12.0
Clearwater
See note
Itasca
Saint Louis
Lake
Cook
−23.1
Norman
See Note
Mahnomen
See note
Hubbard
Clay
−1.7
Becker
Cass
Aitkin
Carlton
Wadena
Crow Wing
Wilkin
−10.9
Ottertail
−7.6
−2.9
Todd
Morrison
−0.1
Pine
−8.5
Grant
−10.2
Douglas
Mille Lacs
Kanabec
Increase of Country Population in Minnesota in per cent 1900-1910
Decrease
Less than 20% increase
20 to 40 %
40 to 60 %
60 to 80 %
Over 80 %
Traverse
−7.1
Stevens
−10.8
Pope
−1.7
Stearns
Benton
Isanti
−0.9
Sherburne
Chisago
Bigstone
−9.2
−13.2
Swift
Anoka
−6.5
Kandiyohi
−7.7
Meeker
Wright
Washington
−4.3
Chippewa
Hennepin
−2.5
Ramsey
−7.6
−1.1
Lac Qui Parle
−7.0
McLeod
Carver
−4.5
−2.0
Yellow Medicine
−6.8
Renville
−16.3
Scott
Dakota
−4.5
Sibley
−10.8
−1.8
Lincoln
Lyon
−1.4
Redwood
−14.2
LeSueur
−11.1
Rice
Goodhue
−8.3
−10.5
Wabasha
Nicollet
−12.2
−7.6
Brown
Pipestone
−7.5
Murray
Cottonwood
−2.1
Watonwan
Blue Earth
−15.7
−11.4
Waseca
−7.3
Steele
−10.2
Dodge
−1.2
Olmsted
−8.3
Winona
−3.2
Rock
−6.6
Nobles
−3.0
Jackson
−3.6
Martin
−10.6
Faribault
−6.7
Freeborn
−10.8
Mower
−16.7
Fillmore
−14.2
Houston

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Figure 198. Percentage of change in country population, 1900-1910, according to the Thirteenth Census.[49] (Based on Table XI)

[49] Counties marked "see note" were formed or changed as to boundaries during the decade; hence the rates of change could not be ascertained on the same basis.

Summary of agricultural development, 1900-1910

In order to bring clearly to view the extent and direction of agricultural changes during the decade 1900-1910, a table is presented at the end of the chapter showing the percentage of increase or decrease during that period and also the relation of each item to the total country population. The figures relate to the State as a whole, irrespective of counties.

Proportion of land used for agriculture

The total land in farms increased from 26.2 to 27.7 million acres, or 5.4 per cent; unimproved land in farms from 7.8 to 8 million acres or 2.9 per cent; and improved land in farms, from 18.4 to 19.6 million acres, or 6.5 per cent. The total percentage of farm land improved thus rose from 70.3 to 71; and the percentage of land area in farms increased from 50.7 to 53.5 per cent. From these figures it is readily calculated that the ratio of improved farm land to total land area was 35.64 in 1900 and 37.98 in 1910 (Items 4-13, Table 24).

It will be noted that improved land in farms increased 1.2 million acres against 0.2 million acres of unimproved land. This clearly indicates that the extensive margin of cultivation was descending on farms previously established. Nevertheless, the low rate of increase in improved land (6.5 per cent) shows that the pressure upon the extensive margin was not severe; and it may be inferred that so long as the farming population does not increase considerably or more intensive farming of the better lands proves profitable, cultivation will not readily descend to the poorer lands unless there is a still greater advance in the prices of farm products. The relation of these changes to previous decades is shown in Figs. 199, 213.

The slowing-up of agricultural extension

The striking fact in the accompanying diagram is the slowing-up of agricultural extension in Minnesota since 1900, in spite of the large area not yet included in farms. The explanation lies near at hand. So long as prairie homesteads could be had for the taking, ready for the plow, agricultural settlement went on apace; but prairie land of this character was practically all occupied, or at least in private hands, by 1900. Since that date the unoccupied lands have been found mostly in the forested or cut-over districts (Figs. 153, 161). To a generation accustomed to the quick and easy method of establishing a farm on the prairies, the clearing-away of the wreck left by the lumberman and by the forest fires which followed hard on his heels, if indeed they did not precede him, has seemed a formidable task. At best, it is undeniable that pine stumps, left in place, hinder the full use of the land for many years; and that their removal by machinery or dynamite demands a larger investment of capital than most of the settlers are able to afford for some years. Moreover, attempts have sometimes been made to sell settlers land better suited to the growth of forests than of farm products; and these attempts, even when unsuccessful, have tended to discourage settlement in the coniferous zone. For these reasons many thousands have passed by Minnesota, preferring the prairie lands farther west, even in the semi-arid zone or in Canada. This westward movement has moreover been increased by the unusual rainfall of the last few years in the normally arid Great Plains region, and by the effective advertising of these western lands.

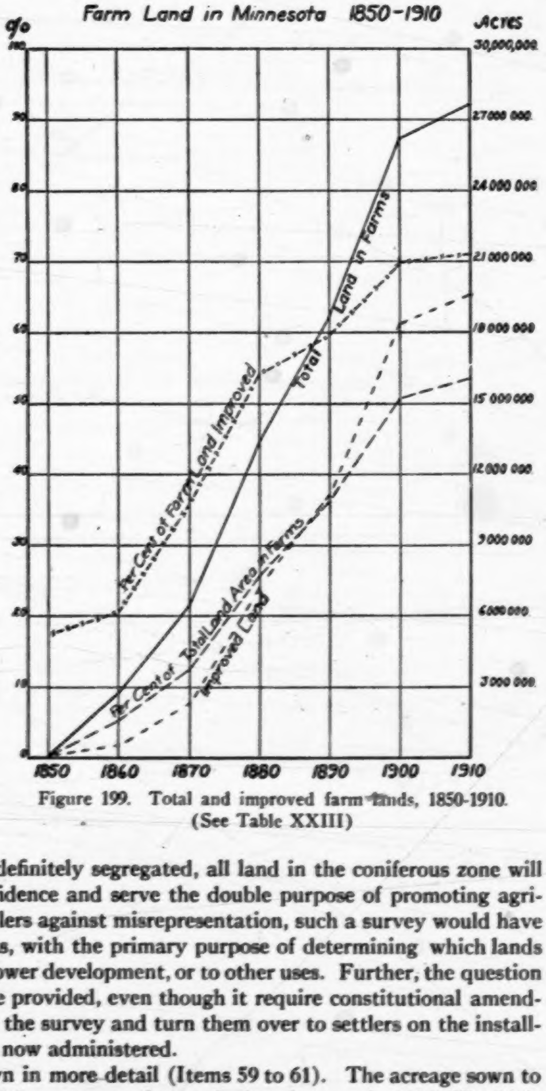

Figure 199. Total and improved farm lands, 1850-1910. (See Table XXIII)

In view of these facts the question may fairly be raised whether the traditional plan of leaving settlement wholly to individual initiative and decision is entirely satisfactory in face of the new problems presented by the cut-over lands. The re-establishment of the state immigration service has already resulted from these conditions. In order that all land may be devoted to that use for which it is best fitted, without long delay, costly mistakes, and unnecessary hardship, there is also imperative need of a thorough soil survey, issuing in a detailed land classification map, especially of the coniferous section. So long as some of the coniferous land is known to be non-agricultural, but has not been definitely segregated, all land in the coniferous zone will be more or less under suspicion by settlers. To command public confidence and serve the double purpose of promoting agricultural and forestry development, and at the same time protecting settlers against misrepresentation, such a survey would have to be made on scientific principles, regardless of local or special interests, with the primary purpose of determining which lands are better suited to farming than to forests, to reservoir sites for water-power development, or to other uses. Further, the question is worthy of consideration whether a revolving fund may not properly be provided, even though it require constitutional amendment, to clear the state lands which shall be classified as agricultural by the survey and turn them over to settlers on the installment plan, in somewhat the same way as federal irrigation projects are now administered.

Changes in bushel crops, 1899-1909

The great decline previously noted in wheat-growing is here shown in more detail (Items 59 to 61). The acreage sown to wheat actually fell off 50.1 per cent, while the production declined only 40.1 per cent, owing to the heavier crop in 1909 (Fig. 200). The fundamental cause of such a loss of acreage, in the face of increasing prices for wheat, was the slowing-up previously noted in agricultural extension. Wheat-growing had been maintained as the dominant industry up to 1900, chiefly by the plowing-up year by year of fresh prairie lands. As soon as the addition of new wheat lands ceased, the spread of mixed farming in the older counties at once began to reduce the total acreage planted to wheat. In the face of this decline in amount, the value of wheat nevertheless increased 10.7 per cent, indicating that the price per bushel realized by the farmer had approximately doubled. Owing to this phenomenal advance in price, though both acreage and yield had fallen off compared to the country population, there was an increased financial return per capita from the wheat crop.

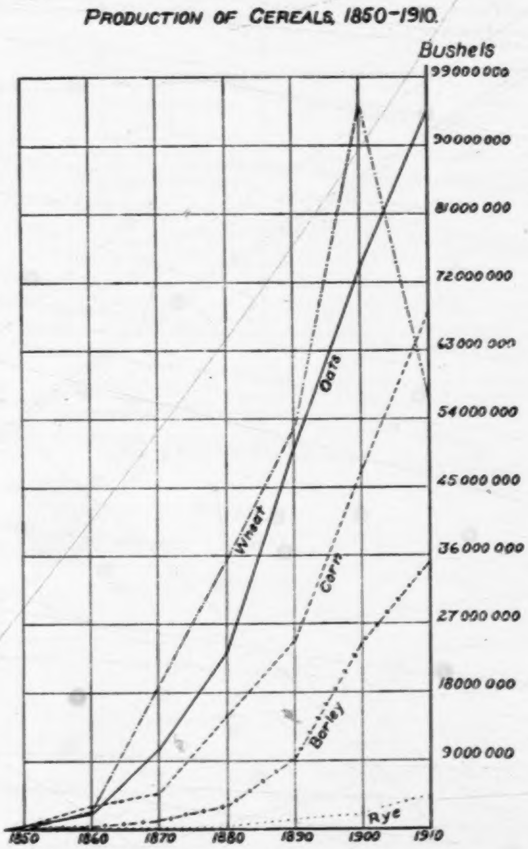

Figure 200. Production of principal cereals, 1850-1910. (Based on Tables XIII, XIV, XV, XVI, and XVII)

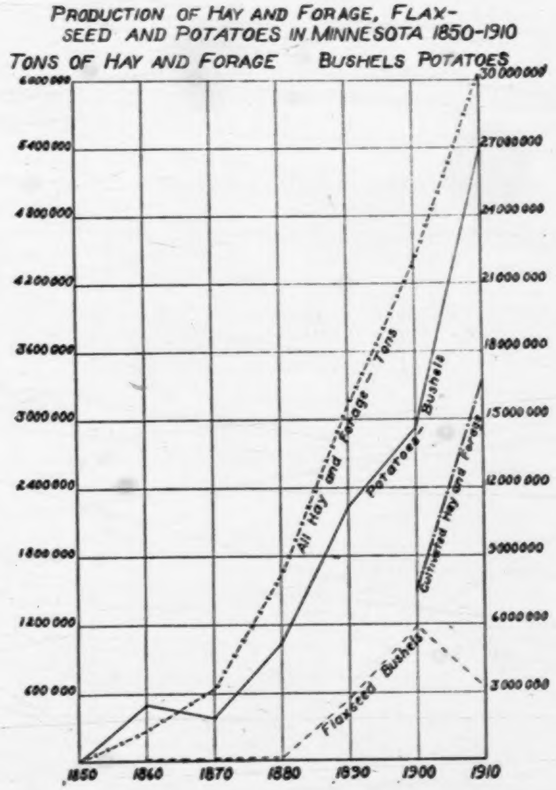

Figure 201. Production of hay and forage, flaxseed, and potatoes, 1850-1910. (Based on Tables XXII, XVIII, and XIX)

All other grains, in fact all other bushel crops except flaxseed and sweet potatoes, showed not only an absolute increase in acreage, total yield, and value, but also an increased yield and value per capita of the country population (Items 61-109; Fig. 219). Moreover, in every case the value outran the increased crops, in some cases exceeding the increase in bushels as much as four times. Thus oats, with a gain of 26.8 per cent in amount, showed an increase of 114.9 per cent in value; and the corn crop, larger by 43.7 per cent, was worth 169.1 per cent more money. The totals for all small grains showed a loss of 16.7 per cent in acreage and 2.2 per cent in bushels, yet an increase of 48.2 per cent in value. Evidently the average price to the farmer had increased fully 50 per cent. The same conclusion is indicated for all bushel crops, since they increased in the aggregate only 10 per cent in amount but 62.3 per cent in value.

As a result of these changes, wheat, though still occupying more land than any other crop, and also ranking first in value, was exceeded in amount by both oats and corn (Fig. 200). The crop fourth in rank, measured by value, was barley. Notable increases also occurred in all the minor grains, as well as in grass seed (largely timothy) and clover seed.

Changes in other crops, 1899-1909

Hay and forage crops increased 25 per cent in acreage and 39.1 per cent in tonnage, a decline in wild hay being more than offset by the gain in tame grasses. This change was the natural consequence of a decline in wheat-farming (Items 110-145; Fig. 201).

The principal decreases among the miscellaneous products were in broom corn, sorghum, and maple sugar. On the other hand, slight increases were reported in tobacco and sugar beets, though neither had as yet attained importance (Items 146-175).

More important gains were recorded in market-gardening, orchard fruits, and nursery products. In fact, the increase in fruit trees since 1890 and in value of fruits since 1900 has been fairly spectacular (Items 183-222; Fig. 203). Small fruits, on the other hand, declined slightly in yield, though increasing in acreage and value. It is noteworthy that the increase in tree fruits was chiefly confined to apples, plums, and cherries, and in small fruits to strawberries, raspberries, and currants, most of the others showing a loss. In the case of some of the softer fruits, including grapes, there are evidently climatic difficulties not yet solved.

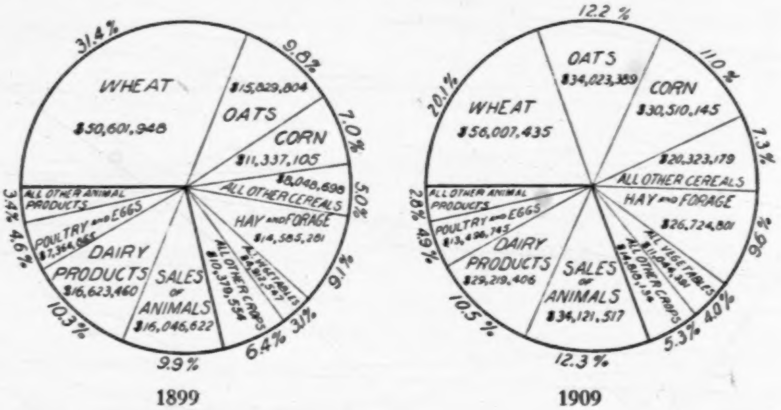

Figure 202. Relative values of principal farm products for 1899 and 1909 according to the censuses of 1900 and 1910.

Changes in domestic animals, 1900-1910

The census of 1900 was taken as of June 1, while that of 1910 was of April 15. This change renders the figures for live stock not fully comparable, as will be seen from the percentage of decrease wherever the youngest age class is given separately (Items 272, 282). The effect of this discrepancy is evident in Fig. 204, where the rate of increase from 1900 to 1910 appears as less than from 1890 to 1900, except in the case of dairy cows, which of course were not affected. The presumption is that most of the kinds of live stock would have shown at least as rapid an increase from 1900 to 1910 as during the preceding decade, had the census been taken at the same date.

Even without allowing for this discrepancy, there was a general increase in live stock, both absolute and relative to the country population. Thus, all cattle increased 25.4 per cent, steers and bulls 27.1 per cent, and dairy cows 44 per cent. Horses

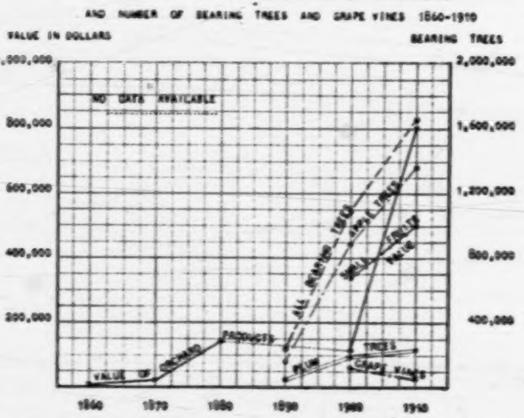

Figure 203. Fruit trees and value of fruits, 1860-1910. (Based on Table XXIII)

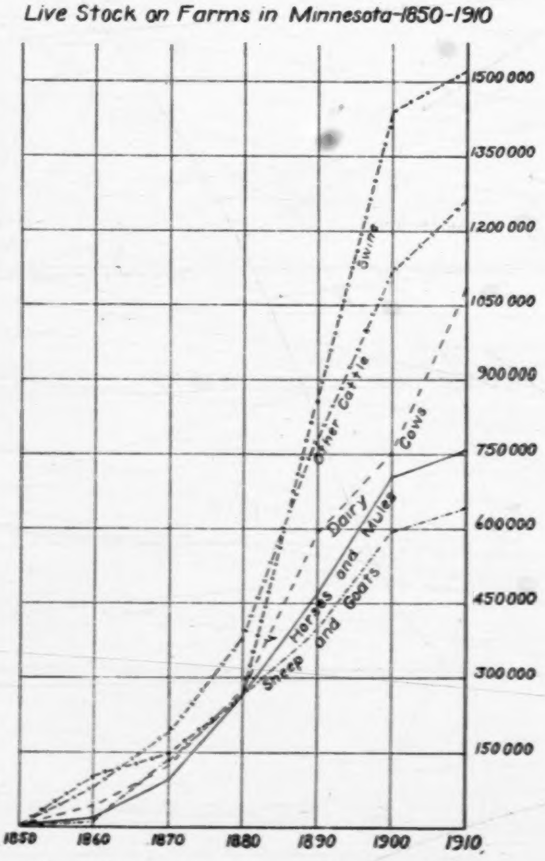

Figure 204. Number of live stock on farms, 1850-1910. (Based on Tables XXIV, XXV, XXVI, and XXVII)

increased 8.1 per cent, but mature horses 12.7 per cent. In spite of this increase, however, inquiry at the Midway horse market reveals the fact that too few horses are raised in the State to meet the demand of the lumber camps and the cities, many being imported, especially from Iowa.[50] The explanation is presumably the longer feeding season and the higher cost of feed compared to states farther south. Swine increased slightly (5.5 per cent) in spite of the youngest age class not being separated, which means a large gain in fact. The explanation is, of course, the development of the dairy industry. Sheep increased at the same rate (8.1 per cent) as horses; but ewes, which furnish a better test, increased 56.9 per cent. Goats were 20 per cent more numerous, without allowing for the change of date. Like sheep, they were being increasingly used in clearing cut-over lands. Poultry gained 31.4 per cent and bees 23.6 per cent during the decade, which indicates a considerable development of these by-product industries. The value of the younger age classes was usually less, by reason of the earlier date, which of course affected the relation of totals in 1900 and 1910.

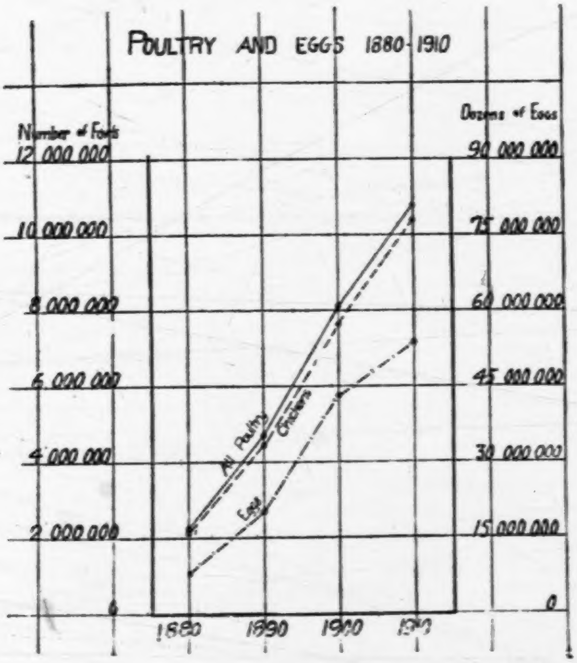

Figure 205. Poultry and eggs, 1880-1910. (Based on Tables XXVIII and XXXIII)

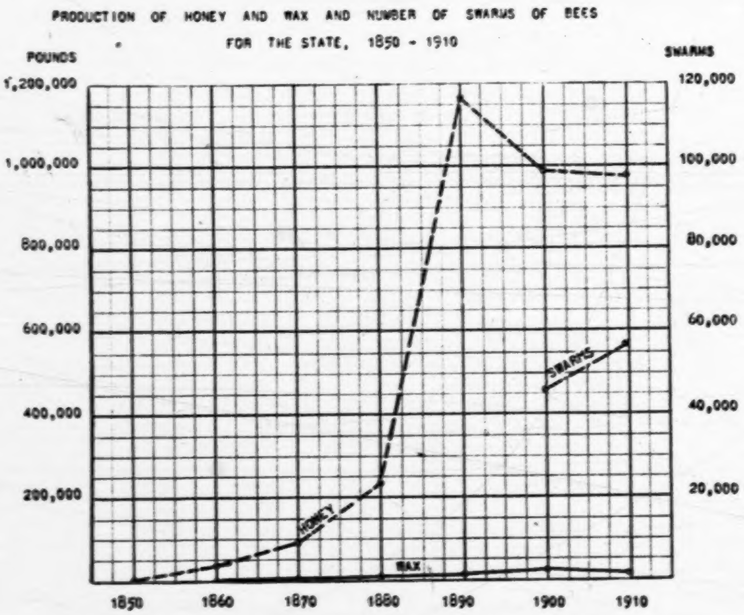

Figure 206. Bees, honey, and wax, 1850-1910. (Based on Tables XXIX and XXXIV)

All domestic animals except poultry and bees gained 14.3 per cent in number but 81 per cent in value, indicating an increase of two thirds in average estimated value. A part of this increase was, of course, due to the rise of the general level of prices; but a part of it, notably in the case of dairy cows and horses, may fairly be attributed to the introduction of blooded stock.

Changes in animal products, 1900-1910

Animal products increased faster than the number of domestic animals, exceeding also the increase of country population, except in the case of cheese and bee products. As with the value of animals, the value of their products showed a disproportionately rapid gain, due largely to better prices, but perhaps in part also to better quality. This relation is illustrated by the figures for wool, mohair, poultry products, animals sold and slaughtered, and receipts from dairy products (Items 322-372; Fig. 207).

The increase of output and of value is especially striking in the dairy industry. The total production of milk increased 34.6 per cent, while the value of dairy products to the farmers rose 84.3 per cent. The difference presumably represented increased prices, due in part to better quality. The milk sold declined from 103.8 to 53.2 million gallons, while the cream sold rose from 1.2 to 5.8 million gallons. This change followed the introduction of hand separators on the farms, which has occurred mostly since 1900.

The hand separator discouraged butter-making on the farm, because it enabled the farmer to shift this task to the factory without daily trips to the creamery. It also discouraged the sale of whole milk for either butter- or cheese-making. By the use of the separator the farmer was assured of fresh skim milk for feeding young stock; on the other hand, the skim milk received back from the creamery was usually sour, while the whey from the cheese factory (though estimated as worth in good condition 10 cents per hundred against 20 cents for skim milk)[51] was as a rule quite worthless, except perhaps in the Dodge-Goodhue district where the plan of pasteurizing it had come into use.[52] The net effect of these influences was: (1) to cause a rapid development of butter-making and at the same time to shift it more largely to the creameries; (2) to lower somewhat the grade of cream because farmers frequently kept it too long; and (3) to cause a decline in the cheese industry.

---

[50] Letter from Barrett and Zimmerman, St. Paul, January, 1913.
[51] *Twelfth Report State Dairy and Food Dept.*, 1909. 133.
[52] *Thirteenth Report, State Dairy and Food Dept.*, 1911, 95; *Ninth Report*, 33

Whether this decline in cheese-making will continue may be doubted.[53] The rapid rise of Minnesota as a dairy state, from the eighteenth in rank in 1880 to the fourth in 1910, when only Wisconsin, New York, and Iowa had a larger value of dairy products, indicates exceptional advantages for the dairy industry. The same conclusion follows from the fact that up to 1912 Minnesota butter won eight out of the ten banners offered by the National Buttermakers' Association.[54] It is not clear why such advantages do not favor cheese as well as butter, especially in the hilly regions toward the north. Moreover, experience in both Wisconsin and Minnesota seems to show that butter equals cheese as a money-maker only in case its price is at least 2.5 times that of cheese,[55] and for some years past the price of butter has not maintained this ratio. The conclusion would seem to be that an expansion of cheese manufacture may be anticipated in the districts best adapted to it by nature or by reason of acquired skill. In this connection it is interesting to note that the 1913 report of the State Dairy Department shows an increase of approximately a million pounds (24.46 per cent) in the output of cheese for 1912 as compared to 1911. The value of materials increased even more rapidly, owing to higher prices.[56]

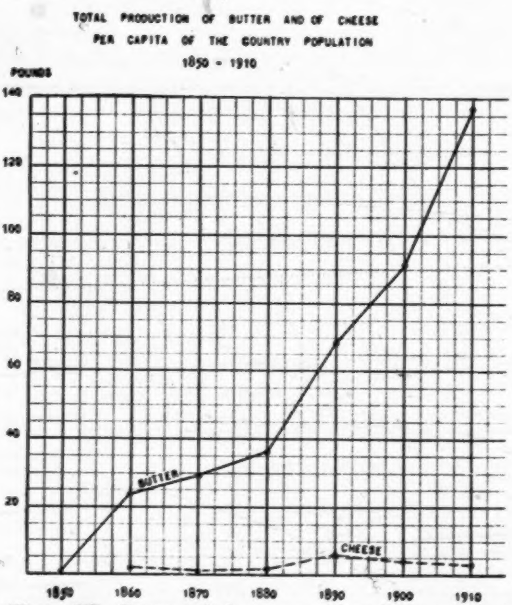

Figure 207. Butter and cheese per capita of country population, including both farm and factory product, 1850-1910.

Changes in values

The classification of the value of farm products in 1910 renders a comparison with the figures for 1900 uncertain, since no statement is given either of farm products fed to live stock or of total value of farm products. However, the total value of all farm products reported in 1900 was 161.2 million dollars, thus including 33.3 million fed to live stock and therefore counted twice. The extent of such duplication was 20.6 per cent. In 1910 the value of all crops, plus the returns from live stock (Items 386-388), amounted to 278 million dollars. If the extent of duplication was the same, we would obtain the following results:

TABLE 22

Items	1899	1909
Total farm products........................	$161,217,304	$278,052,215
Products not fed............................	$127,959,824	$220,773,458

As a matter of fact, the increase of 112.6 per cent in value of animals sold, while largely due to higher prices and exceptionally heavy sales of meat animals that season, nevertheless indicates that animal husbandry was advancing faster than crop-raising, and consequently that more than 20.6 per cent of the total products was presumably fed to stock; but how much more there is no means of determining. All that can be said with certainty is that the value of farm products increased somewhat less than 72.5 per cent.

The expenditures for fertilizers decreased 70.2 per cent during the decade. It is evident that the farmers had begun to learn other methods of conserving the fertility of the soil without the use of commercial fertilizers, which can be used profitably only in the production of special crops of high value per acre. On the other hand, the expenditures for labor increased 34.1 per cent, probably as a result of larger numbers of live stock,[57] which require attention at all seasons. With expenditures decreasing or increasing less rapidly than the value of products, it would seem that the net returns to farmers must have risen materially faster than gross returns. The period 1900-1910 thus presents quite a different aspect from the preceding decade. In this connection attention may be called to the fact that country population was decreasing rather than increasing, except in the northern counties.

The value of tools and machinery, moreover, increased 73.9 per cent. This rate of increase slightly exceeded that of value of product, and was more than double the increase of labor, which would tend to diminish the unit cost of production. At the same time the increase in value of machinery was at approximately the same rate as the increase in value of products, and less than the increase in lands and buildings. This would seem to indicate that the machinery situation was in a fairly stable condition; in other words, that no revolution due to radically different types of machinery was in progress.

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[53] *Fourteenth Report, State Dairy and Food Dept.*, 1913, 40.

[54] *Ibid.*, 1913, 35.

[55] *Annual Report, Commissioner of Statistics*, 1894, 85; *Wis. Agri. Exp. Sta. Bull.*, 60, 13.

[56] *Preliminary Report of State Dairy Dept.*, 1913, showed for 1911, 3,890,648 pounds, containing milk costing $397,056.58, for 1912, 4,842,328 pounds, containing milk costing $631,-301.91.

[57] *University of Minnesota Studies in Economics No. 1*, 11.

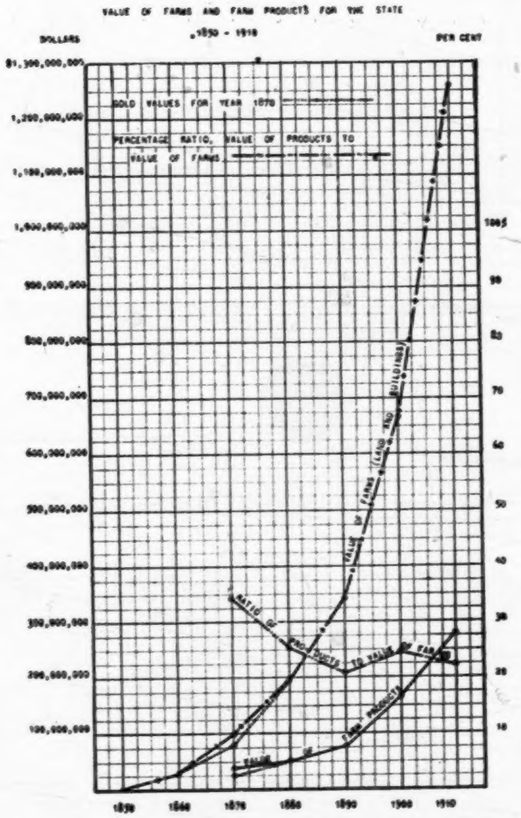

Figure 208. Value of farms (land and buildings), and value of farm products for the state as a whole, 1850-1910. (Based on Tables XXXV and XXXVI)

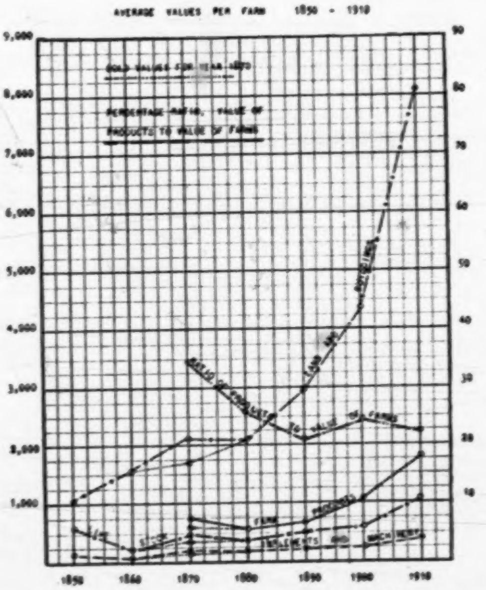

Figure 209. Average value of farm products and property per farm, 1850-1910.

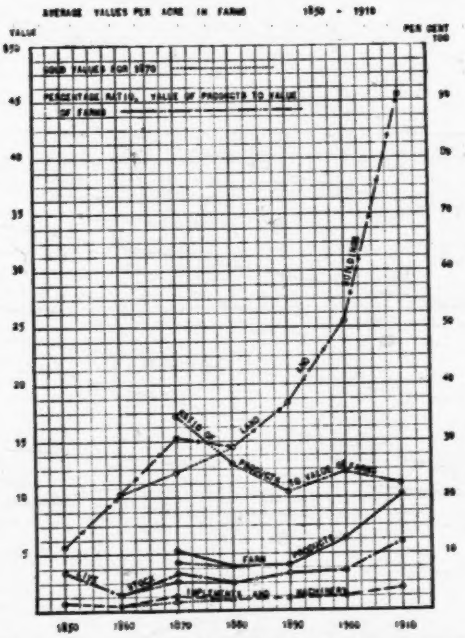

Figure 210. Average value of farm products and property per acre in farms, 1850-1910.

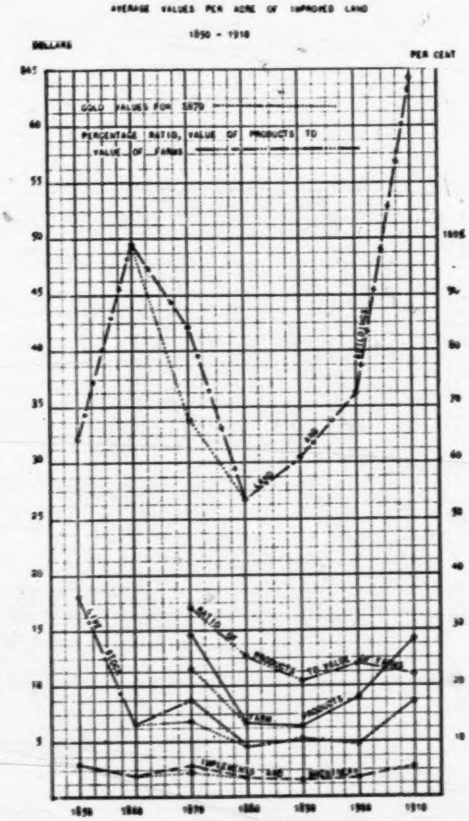

Figure 211. Average value of farm products and property per acre of improved land, 1850-1910.

The value of live stock on farms increased 81.5 per cent, farm land 82.2 per cent, farm buildings 120.8 per cent, land and buildings 88.6 per cent, and all farm property, real and personal, 87.2 per cent. The value of live stock thus outran value of farm products, again suggesting a more rapid growth of animal husbandry than of tillage. This large increase in buildings signifies, of course, a considerable investment of capital in fixed form, and is to be explained in part by the erection of good farm structures on the new lands in the northern part of the State, in part also by the increase of the dairy business.

The increased value of land reflected the gain of 2.9 per cent in wild, and 6.5 per cent in improved land included in farms, even though these additions were not in all cases productive during the census season. It may also be true, as has been claimed, that speculation or the example of other lands similarly situated but better farmed, resulted in pushing up land values over considerable sections faster than the returns from those particular lands warranted.[58] In the main, however, farm land is worth what it earns, capitalized at the current rate of interest. This means, of course, that a lower rate of interest would give a larger capital value; but the fact seems to be that interest rates in general rose rather than declined between 1900 and 1910. We are thus brought to the conclusion that the principal factor in this advance of land values was increased earning power, due to (1) greater technical efficiency, (2) more intensive farming shown by northward migration of dairy farming and corn growing, (3) higher prices for farm products, averaging perhaps 50 per cent advance (pages **209**, **212**), and (4) a higher ratio of net to gross earnings, due to the more rapid advance of returns than of expenditures for wages and fertilizers. Allowing for the extension of land area and this higher ratio of net to gross earnings, the increase of 82.2 per cent in land value corresponded substantially to the increase of 72.5 per cent in value of products.

Values in relation to land, 1850-1910

The relation of value of farms and value of farm products to each other at the several census years, so far as reported, is shown in Figs. 208, 219.

From Fig. 208, it is seen at a glance that the value of farm products for the State as a whole increased slowly from 1870, when first reported, up to 1890; but thereafter it rose rapidly, especially in the last decade. Value of farms, on the other hand, rose more rapidly with every decade from 1850 on, with the result that the actual increase in such value from 1900 to 1910 almost equalled the entire gain from 1850 to 1910. Throughout the period, with the single exception of the decade 1890-1900, value of farms increased faster than value of products, not only absolutely but relatively, so that value of products formed a declining percentage of value of farms. As previously indicated (page **136**) this fact seems to imply either an increasing ratio of net to gross farm earnings or a declining agricultural interest rate.

In order to eliminate from the calculations, so far as possible, the disturbing effect of new lands brought under cultivation Figs. 209 to 211 present the same data with reference to the farm, the acre in farms, and the acre of improved land in farms.

On the basis of the farm and of the acre of land in farms (Figs. 209, 210), the agricultural depression of the seventies stands clearly revealed, especially if currency values are used; and these were the only values which the farmers knew. It is, indeed, true that a large part of the great apparent prosperity during the sixties[59] had been fictitious, resting on nothing more solid than fiat money inflation; but this fact was not understood by the farmers, and, in any case, it did not render falling prices and stagnant land values any less disastrous for them. Moreover, from 1870 to 1880 there was a decline in value of farm products even on the gold basis. On the other hand, the decade 1880-1890 saw a recovery in value of products and an advance in value of lands. On the whole, however, the two decades 1870-1890 were clearly a period of acute agricultural depression in Minnesota as elsewhere, in striking contrast to the abounding prosperity of the two decades 1890-1910.

These contrasts between 1870-90 and 1890-1910 stand out still more clearly when the data are presented for each acre of improved farm land (Fig. 211). On this basis, however, it is seen that even during the sixties land values did not keep pace with the increase of improved land, continuing to fall until 1880; but that a rise then began in land values ten years before the advance in value of farm products in 1890. Changes in land values have thus anticipated rather than followed changes in value of products, much as values of stocks usually anticipate changes in dividend rates. On the basis of improved land, even more than on any other, the increase in all values during the last decade far outstripped any previous period or indeed all previous decades.

The new status of agriculture

Such a stupendous advance in farm values, due chiefly to higher prices for farm products, suggests that we have definitely entered upon a new era.[60] Ever since the discovery of America, the Old World has been exposed to an increasing stream of influences and of products from the New World. This reaction of America upon Europe has reached a maximum of intensity since about 1870, owing to the perfection of harvesting machinery, the use of Bessemer steel for steamships, locomotives, and rails, and the rapid extension of railways into the plains west of the Mississippi. Never in the history of man has so great an area of fertile land been brought under the plow and made accessible to the world's markets in so brief a time. As a result, Europe has been inundated by a flood of farm products, forcing prices down to levels never before reached. In fact, prices have for considerable periods of time gone below the cost of production in a large part of the United States. This condition, as previously noted, was an important cause of the Granger legislation and the insistent demand for "cheap money," represented by the greenback and free silver movements. In Europe the cheap foodstuffs from America caused a profound crisis in agriculture. Some countries, such as Denmark, were forced virtually to abandon grain-growing, while the area under grain was greatly diminished in most of Western Europe. This American competition, moreover, gave rise to the agrarian protection movement which has dominated the commercial policy of most European countries for the last thirty years.

On the other hand, the city populations both in America and in Europe have thriven and multiplied by reason of cheap foodstuffs. This has been the fundamental fact underlying the rush from the country to the cities. Never before have so many people lived in the cities or lived so well as during the last half century. Economic doctrine, too, has been profoundly affected by the fact of cheap foodstuffs. It has a close relation to the modern neglect of production in favor of theories pertaining to distribution. So far, however, as our thinking has presupposed an indefinite continuance of cheap foodstuffs, we have all been living in a fool's paradise. The Columbian age, the age of plenty produced by opening up and exploiting the colossal riches of a new continent, is drawing to a close. This fact is clearly apparent in the rising prices of farm products and of farm lands as reported by the census of 1910, not only in Minnesota but in the country at large. This same conclusion is even more strikingly confirmed by the beginning, during 1913, of food imports into the United States on a considerable scale. The underlying fact is that the population, both of this country and of the world at large, has of late increased much faster than the area brought under the plow; much faster than the intensity of cultivation on lands already cultivated; and much faster than the total crop of foodstuffs. Moreover, no second Mississippi Valley remains to be exploited. Most of Australia is arid and much of Canada and Siberia is frigid; and the lands that remain to be put under cultivation in Asia, in Canada, and in Argentina have not the economical potentialities of those that have been brought under tillage in the last fifty years.

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[58] *Minn. Agri. Exp. Sta. Bul. 117*, 48-50.

[59] Ruggles, Clyde O., *The Economic Basis of the Greenback Movement in Iowa and Wisconsin* (*Proc. Miss. Valley Hist. Assn.*)

[60] From the author's *Changes in Minnesota Agriculture Indicated by the Preliminary Results of the Thirteenth Census* (*Quart. Pub. of Am. Statistical Assoc.*, March, 1911).

During all this age of plenty, the farmer alone has usually been oppressed with poverty, since for him it has meant low prices for his products. These conditions have given rise to our current American conception of the farmer as a hard-working and underpaid member of society, at the mercy of all other classes. For the future, however it may be with the farm laborer and the tenant farmer, the land-owning farmer must be reckoned a capitalist who is certain to receive year by year an increasing share of the social dividend.

In view of these facts, it becomes of great importance to ascertain what are the present tendencies as to number of farmers, as well as the size and tenure of farms.

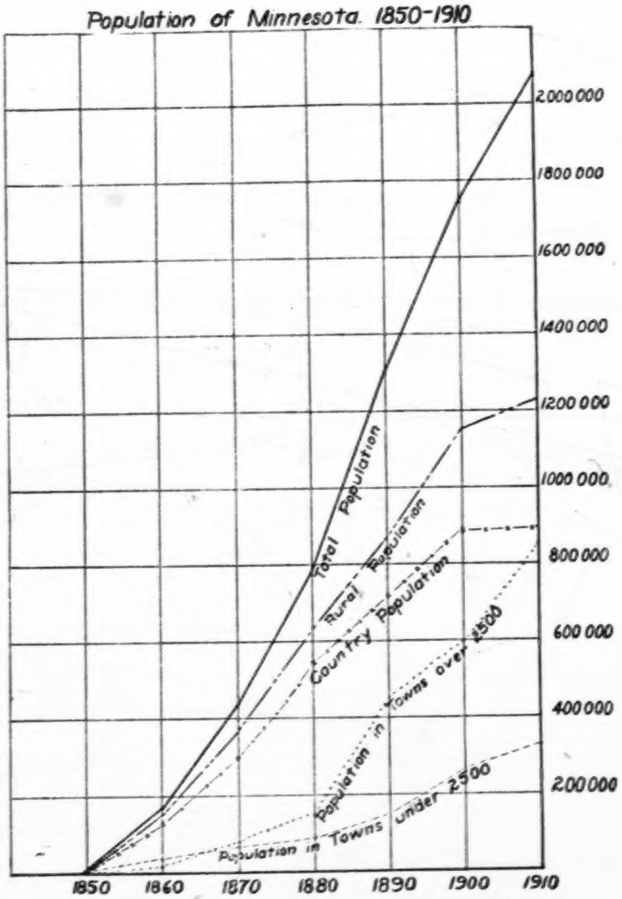

Figure 212. Absolute increase of population, 1850-1910. (Based on Table XI)

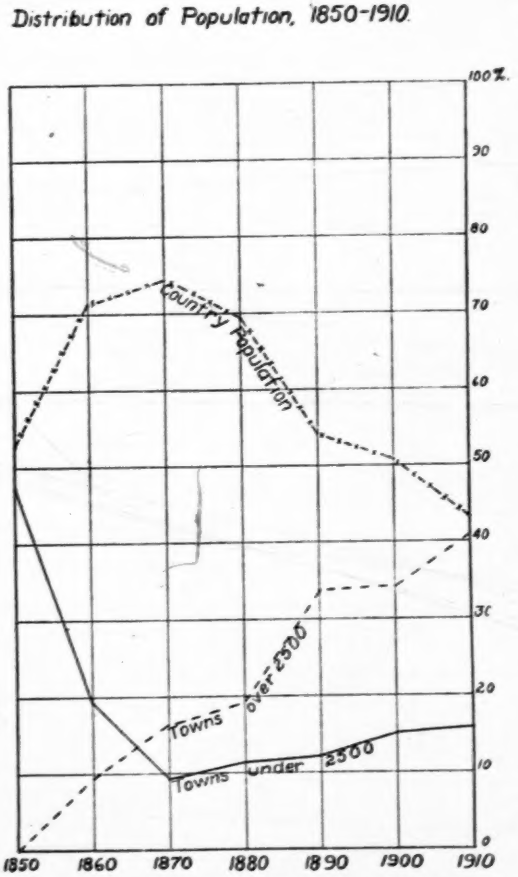

Figure 213. Relative increase of country and town population, 1850-1910. (Based on Table XI)

Changes in country population

From 1900 to 1910 there was an increase of 8,298 persons in the open country, against 316,016 or 36.7 per cent in incorporated places; the total for the State being 324,414 or 18.5 per cent. The total and the relative increase of population in the country, in places under 2,500 inhabitants and in larger municipalities is shown in Figs. 212, 213, for each census interval.

From Figs. 212, 213, it is evident that country population gained very rapidly up to 1880, and at a less rapid rate up to 1900, since which date it has been practically stationary. Villages under 2,500 population increased most rapidly from 1880 to 1900, though continuing to increase somewhat from 1900 to 1910. Cities of over 2,500 population, on the other hand, began to grow most rapidly in 1880, when the first slackening of country population appeared and after a slight check, due presumably to the panic of 1893, resumed substantially their rapid increase from 1900 to 1910. At the rate there shown, it seems probable that by 1915 more people will be found in municipalities of 2,500 or more inhabitants, than in the open country. On the percentage basis (Fig. 213), the year 1870 marked the highest point for country, and the lowest for village, population; while on the other hand 1910 marked the lowest for country and the highest for cities of over 2,500 inhabitants.

As previously indicated this check to country population resulted from an actual decline in southern and central Minnesota, which all but wiped out the increase in the northern section (Figs. 197, 198). The question is, what caused this decline in the country, throughout nearly all the richest farming counties of the State?

It is evident that a decline in population must mean either fewer members in each country household; or fewer households; or both these conditions combined. The latter is believed to be the true explanation in most of the counties concerned.

A decrease in the number in each household may be due either to fewer hired help, or to fewer children at home; and here again both causes are believed to be operative.

For one thing, less help has been needed of late in general farming because of the general use of nearly automatic machinery for much work formerly performed by hand. Another change tending in the same direction is the transfer of butter- and cheese-making to factories, together with the introduction of separators on the farm, which has reduced the frequency of trips to the factories. On the other hand, the change from grain to live stock has made the demand for labor more continuous, if less extensive at certain seasons; migratory labor can not be depended on, especially since the lumber industry is largely a thing of the past; and immigration of northern Europeans, familiar with the care of live stock, has greatly diminished. It is even claimed that farmers, discouraged by inability to get efficient help, have sometimes leased their farms,[61] as cotton planters have done in the South, on the theory that a tenant will show more interest and capacity than a hired laborer.

A reduction in the average number per household could also occur through a higher death-rate, a lower birth-rate, or the migration to the cities either of individuals or of large families. The death-rate certainly has not risen, though reliable statistics are not available as to its actual course for the country population. The birth-rate, on the other hand, has declined, at least in some of the older rural districts, from 41.5 per thousand in 1860 to 14.7 for a recent five-year period.[62] This decline of nearly two thirds in the birth-rate would alone suffice, if general, to explain the decrease of country population. That it is at least wide spread is shown by the fact that in one school district after another where formerly there were 25 to 35 children, there are now only 5 to 10. Families now number 3 or 4 in place of 8 to 10. On the other hand, in communities where people of a single nationality and tongue are compactly settled, especially in the newer parts of the State, families of 8 to 10 children are still common. These facts suggest that the decrease of the birth-rate is due in the main to the spread of education and a higher standard of living, which everywhere tend to check child-bearing. Moreover, before the days of farm machinery, children were more useful and could begin to pay their way at an earlier age. This is true on the whole in spite of an occasional task which a child can perform with machinery. It follows that just as laws raising the age of employment have been followed by a decline of the birth-rate among factory populations, so the introduction of machinery has tended to discourage large families on the farm, by postponing the period when the children could become economically useful.

Further, not only has the birth-rate fallen, but for the same reasons the current of migration to the cities has gathered force. Thus, in a typical southern Minnesota township 60 per cent of the girls and 37 per cent of the boys between 16 and 21 years of age were away from home, either studying, teaching, or working in the cities; while of those over 21 years, who had presumably chosen their calling, 53 per cent of the girls and 22 per cent of the boys were not on farms.[63] The larger proportion of women who abandoned the farm is obviously due to the fact that not being generally employed in fields in this country, fewer women than men are needed in modern farming, especially since butter- and cheese-making and, to some extent, canning have become factory industries. The farm household was in former generations an important center of production, as well as of consumption; but having been stripped of industries, with the exception of cooking and sewing, the labor force thus released has naturally sought employment in the towns where most of the former household industries are now carried on.

Among well-to-do farmers this migratory movement frequently takes another form. Instead of the children going singly to seek education or employment, they prevail upon the parents to move to town, the farm being left to the oldest son or a son-in-law, or to some other young man as tenant. On the average this form of migration also results in a net loss of country population, while the country towns and, to some extent, the cities are continually recruited from such retired farmers.

Population in relation to size of farms

The country also lost population, not only by a decrease in the size of the average household, but also by a decrease in the number of households. This fact appears clearly in the decreasing number and increasing size of farms in most counties (Figs. 214, 215).

These changes do not mean abandoned farms, in the usual sense, but merely abandoned farmsteads, which are a familiar sight in some parts of the State,[64] notably in the Red River Valley. This tendency toward fewer and larger farms, while general, was not at all universal. Thus, in the southern part, Steele County, in the heart of the dairy section, showed a slight increase in number of farms, with a corresponding decrease in size. This is the more difficult to explain since the average farm in Steele was already smaller than in most of its neighbors, and other dairy counties such as Freeborn and Goodhue changed in the oppo-

[61] *University of Minnesota Studies in Economics, No. 1*, 5, 71.

[62] *Ibid.*, 3.

[63] *Ibid.*, 68, 74-75.

[64] Works, S. D., in *Proceedings of Minnesota Agricultural Society*, 1911, 283.

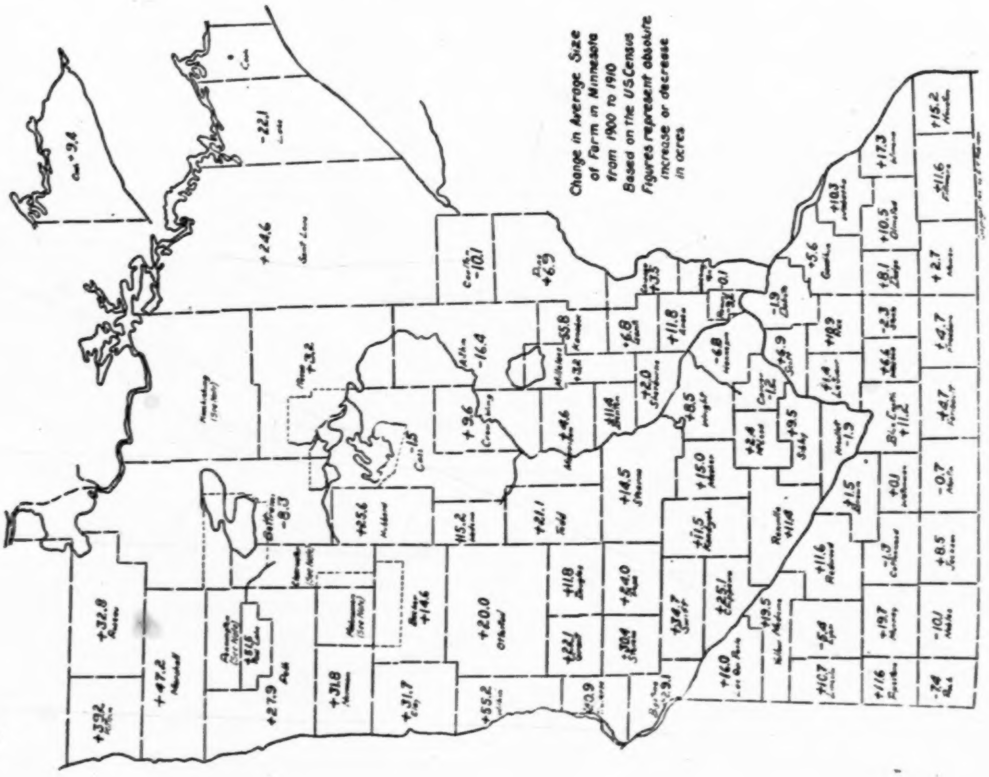
Change in Average Size of Farm in Minnesota from 1900 to 1910 Based on the US Census Figures represent absolute increase or decrease in acres
+39.2
+32.8
+47.2
+27.9
+31.8
+31.7
+55.2
+20.0
+14.6
+12.1
+11.8
+24.0
+34.7
+25.1
+16.0
+19.5
+10.7
-5.4
+19.7
+11.6
-7.4
-10.1
+8.5
+11.6
+11.5
+14.5
+15.0
+2.4
+9.5
+11.5
-0.7
+0.1
+11.2
+4.7
-1.3
+8.5
+21.1
+15.2
+25.6
-8.3
+9.6
-16.4
+3.2
+24.6
-22.1
+9.4
-10.1
+6.3
+11.8
+6.8
-6.8
-1.9
+5.6
+10.3
+17.3
+15.2
+10.5
+11.6
+2.7
-2.3
+18.1

Figure 215. Change in average size of farms by counties, 1900-1910.[65] (Based on Table XXXVI)

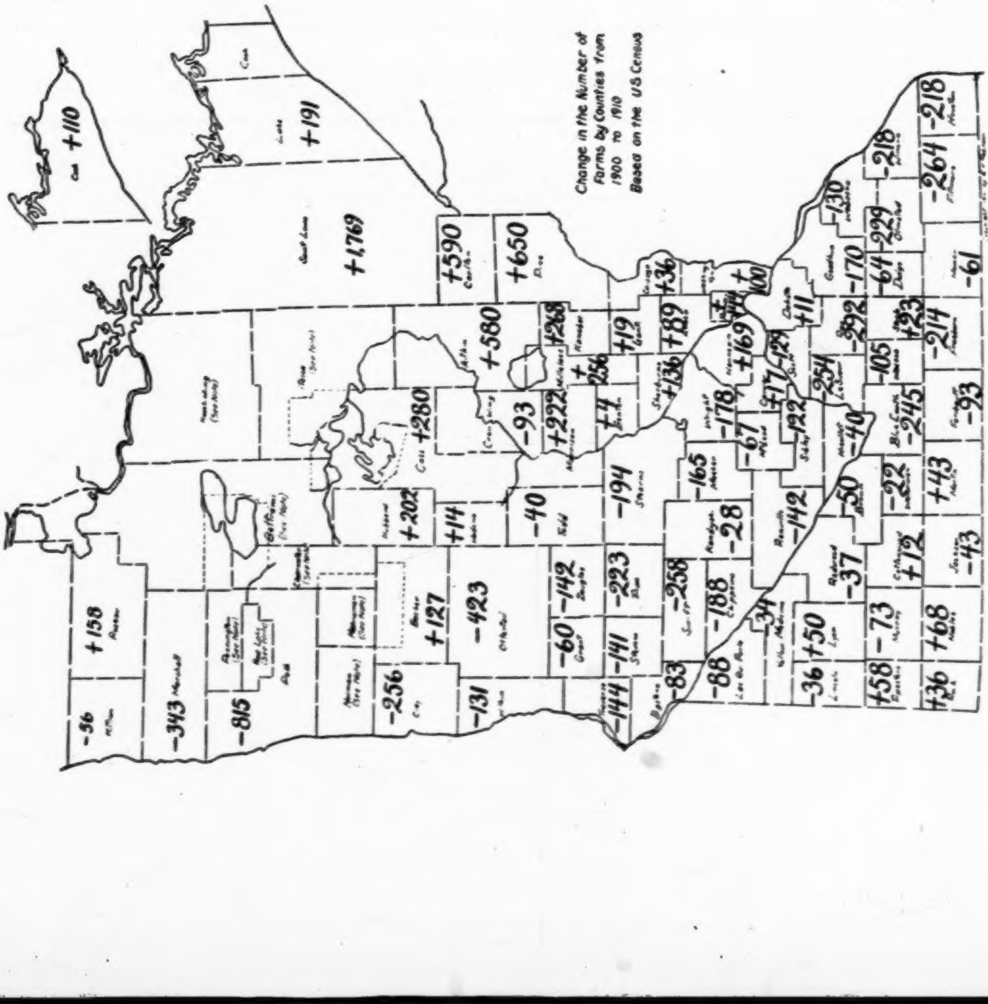
Change in the Number of Farms by Counties from 1900 to 1910 Based on the US Census
-36
+158
-343
-815
-256
+127
-423
-131
-60
-142
-223
-144
-141
-83
-258
-188
-88
-34
+50
-36
+58
-73
+36
+68
+72
-43
-37
-22
-50
-142
-28
-165
-194
-40
+14
+202
+280
-93
+222
+4
+256
+268
+580
+590
+650
+1,769
+191
+110
+19
+89
+136
+36
+100
+169
-178
-67
+17
-129
-122
-254
+11
-292
-170
-130
-218
-218
-264
-229
-64
-105
-245
-214
-93
-61
-40

Figure 214. Change in number of farms by counties, 1900-1910.[65] (Based on Table XII)

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[65] Counties left blank were organized or changed as to boundaries after 1900.

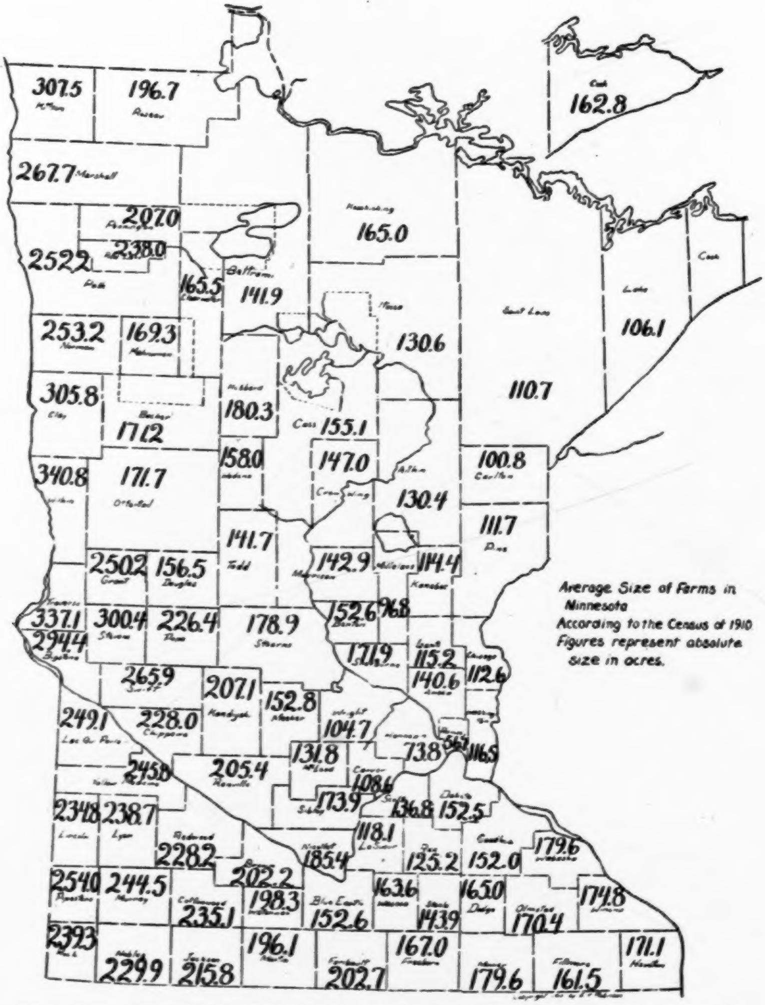

307.5
Kittson
196.7
Roseau
162.8
Cook
267.7 Marshall
207.0
Pennington
238.0
Red Lake
252.2
Polk
165.5
Clearwater
Beltrami
141.9
Koochiching
165.0
Itasca
130.6
St. Louis
110.7
Cook
Lake
106.1
253.2
Norman
169.3
Mahnomen
305.8
Clay
Becker
171.2
Hubbard
180.3
Cass 155.1
158.0
Wadena
147.0
Crow Wing
Aitkin
130.4
100.8
Carlton
111.7
Pine
340.8
Wilkin
171.7
Otter Tail
141.7
Todd
250.2
Grant
156.5
Douglas
Morrison
142.9
Mille Lacs
114.4
Kanabec
Traverse
337.1
300.4
Stevens
226.4
Pope
178.9
Stearns
152.6
Benton
96.8
294.4
Big Stone
171.9
Sherburne
Isanti
115.2
Chisago
112.6
140.6
Anoka
265.9
Swift
207.1
Kandiyohi
152.8
Meeker
Wright
104.7
249.1
Lac Qui Parle
228.0
Chippewa
Hennepin
73.8
56.7
116.5
131.8
McLeod
245.8
Yellow Medicine
205.4
Renville
Carver
108.6
173.9
Sibley
Scott
136.8
Dakota
152.5
234.8
Lincoln
238.7
Lyon
Redwood
228.2
Nicollet
185.4
118.1
Le Sueur
Rice
125.2
Goodhue
152.0
179.6
Wabasha
254.0
Pipestone
244.5
Murray
Brown
202.2
Cottonwood
235.1
198.3
Watonwan
Blue Earth
152.6
163.6
Waseca
Steele
143.9
165.0
Dodge
Olmsted
170.4
174.8
Winona
239.3
Rock
Nobles
229.9
Jackson
215.8
196.1
Martin
Faribault
202.7
167.0
Freeborn
Mower
179.6
Fillmore
161.5
171.1
Houston
Average Size of Farms in Minnesota
According to the Census of 1910
Figures represent absolute size in acres.

Figure 216. Average size of farms by counties in 1910. (Based on Table XXXVI)

site direction (Figs. 215, 216). Southwest of the Minnesota River, where the farms averaged from 40 to 80 acres larger than in the southeast, two contradictory tendencies were also manifest. Along the crest of the Coteau des Prairies, the number of farms fell off while the average size increased; but on both slopes of this ridge, farms increased in number and decreased in size. In this class were several counties, notably Martin and Rock, which grew heavy crops of corn, and one is tempted to infer that corn-growing tends to smaller farms. This inference cannot, however, be maintained in face of the sharp drop in number of farms in Fillmore and other important corn counties. In the rest of the State, however, these conflicting tendencies were not greatly in evidence. The western and northwestern section, north of the Minnesota, showed a general decline in number and increase in size of farms. This, it will be remembered, was still the home of small-grain-farming. On the other hand, all the counties adjacent to the Twin Cities had a larger number of farms owing to the increase of vegetable- and fruit-growing; and the same condition obtained in the northeastern forest zone, where additional land was coming under cultivation. In a general way, the region of fewer farms corresponded unmistakably with the region of decreasing country population (Figs. 215, 198).

Type of farming in relation to size of farm

As a result of the changes which took place in previous decades, as well as from 1900 to 1910, the average size of farm at the latter date varied from 56.7 acres in Ramsey County to 304.8 acres in Wilkin, the general acreage for the State being 177.3 acres of all land including 125.8 acres of improved land.

Excluding Ramsey and Hennepin, where market-gardening reduced the average, no county averaged less than 100 acres per farm. Aside from the counties adjacent to the Twin Cities, the smallest average was found in the forested district of the northeast, and the next smallest in the southeast. On the other hand, the largest average size was in the northwest and the next largest in the prairie district of the southwest.

More significant than changes in average size were the changes by classes (Table 23).

TABLE 23.—CHANGES IN SIZE OF FARMS BY CLASSES ACCORDING TO THE CENSUS OF 1910

Classes of farms	Number of farms		Increase or decrease (a minus sign denotes decrease)		Percentage of total	
	1900	1910	Number	Percentage	1900	1910
Under 20 acres	4,803	5,619	816	17.0	3.1	3.6
20 to 49 acres	13,278	12,028	—1,250	—9.4	8.6	7.7
50 to 99 acres	30,990	26,571	—4,419	—14.3	20.0	17.0
100 to 174 acres	56,785	55,424	—1,361	—2.4	36.7	35.5
175 to 499 acres	45,473	52,836	7,363	16.2	29.4	33.8
500 to 999 acres	2,965	3,359	394	13.3	1.9	2.2
1,000 acres and over	365	300	—65	—17.8	.2	.2

It is clear, from an examination of the percentage column, that there has been a marked decline in the number of small general farms (between 20 and 175 acres), and also in the number of large farms (over 1,000 acres). On the other hand, there was a notable increase in the class of farms under 20 acres, devoted to fruit, market-gardening, and the like; and an even greater increase in the classes of large general farms (between 175 and 1,000 acres), which has raised the average farm in Minnesota from 169.7 acres in 1900 to 177.3 acres in 1910. The conclusion is irresistible that there is in progress an adjustment of the size of farms to the types of farming.

Such an adjustment is a step toward more economical and effective farming; and this is equally true, whether it is attained by enlarging or diminishing the size of farm. It is a vicious popular error, propagated by various sentimental writers, to suppose that a smaller farm always means better farming. That depends absolutely upon the crops grown, the amount of hand-work involved in their production, the progress of invention as to labor-saving machinery, the relative cost of labor and capital goods measured by their output, the value of the output per acre multiplied by the number of acres which can be handled by a unit equipment of labor and capital, and the proportion in which management must be combined with the other factors to give maximum returns; in brief, it depends upon the type of farming. Thus, the size of farm which is best for vegetable-gardening would be absurd for wheat-growing; yet we need bread no less than vegetables, and it is to the interest of all, consumer and producer alike, that wheat be grown by the most efficient combination of land, labor, and capital. Again, an intertilled crop, such as corn, presents quite a different problem from the small grains; a hand-thinned crop, such as sugar beets, has another set of requirements; and the various branches of the animal industry, such as dairying, introduce still other problems which affect the proportion of land to labor and capital. There is, consequently, no one size of farm best suited to all types of farming; nor can the best size for any given type be ascertained except by experiment. Moreover, the best size to-day may not be the best to-morrow, since it varies with the invention of new machinery and with any other change which affects the relative cost of labor and capital goods. In the case of Minnesota, for example, the average farm, based on the homestead unit, has long been too small for the most economical operation in small grains, owing to the introduction of highly efficient machinery for such crops; and it seems possible that the Babcock test, the mechanical separator, and the use of factory methods generally in the dairy industry have tended likewise to enlarge the dairy farm as shown by the decreasing number and increasing size of farms in most of the dairy counties; though it is still true that dairy farms average much smaller than grain farms (Figs. 214, 215).

In view of these facts, it is unfortunate that the census did not make at least three divisions between 175 and 500 acres, and a corresponding number between 500 and 1,000 acres. This would permit a closer delimitation of the size of farms with reference to the principal types of farming. It would likewise show which types tend to large and which to small farms, and thus enable us in a measure to forecast the future of American agriculture.

Conflict of interests

City people generally view with favor every reduction in the size of farms and every increase in country population, irrespective of the type of farming, assuming that smaller farms and a denser farming population mean in general an increase in the aggregate output of farm products. On the other hand, the tendency toward larger farms and a smaller farming population, which has appeared in much of the north central section, usually arouses great uneasiness. In this matter inhabitants of the cities instinctively take the viewpoint of their class interests, since it is true, on the whole, that the denser the agricultural population and the larger the aggregate crops, the more business there will be for townspeople of every sort, from the village blacksmith and carpenter to the metropolitan merchant and banker.

On the other hand, how does the matter stand with the farmer himself? It sometimes seems to be forgotten in this connection that the farmer, like other classes of the community, is not purely a philanthropist, nor yet interested primarily in making a good statistical showing for the State, but rather in securing the best living for himself and his family. Moreover, the largest returns to the farmer are not usually identical with the largest aggregate crops. Not to speak of variations in the prices of farm products, which sometimes cause lean crop years to be the more profitable to the farmer, it is true in general that the attempt to wring larger and larger yields of the same kind of crop from the same area of land, using the same technique, necessarily encounters the law of (relatively) diminishing returns, or increasing expense per unit of product. Thus, if L = a given number of acres of a certain quality of land, W = a number of days' labor with the proper tools and machinery, P = the number of bushels so produced, and A = an additional number of days' labor, then

$$L+W = P;\ \text{but } L + A\,W = A\,P -.$$

This equation necessarily holds true after the stage of frontier agriculture is passed, when the ground was sometimes scratched so superficially as virtually to yield no crop at all.

All commodities are the joint product of land, labor, and capital in the form of tools, machinery, live stock, etc.; and it is impossible, in the nature of the case, to increase a joint product proportionally to the increase in any one or two factors, while the other factor remains unchanged. This fact, while possibly obscure to unreflecting persons of other occupations, is well known to every plowboy in Minnesota; for if it were not, there would be no reason why any farmer should buy or clear more land. In fact, except for this principle of (relatively) decreasing returns and increasing cost per unit of product with greater intensity of cultivation, a farmer could raise as much wheat on a single acre as on 1,000 acres, and as much on a square yard as on an acre; not only so, but he could clear as much over cost of production on the smaller as the larger area.

In view of this fact it is obvious that the farmer has no interest in expending more labor on less land, unless some product can be found which will yield, not only a larger gross return but also a larger net return per acre; not only so, but a net return so much larger that the profit per acre multiplied by the number of acres which one man can handle will exceed the aggregate profit possible with his previous type of farming. Thus, if one man can raise 100 acres of corn or 10 acres of sugar beets, yielding (let us say) $5 net per acre of corn or $50 net per acre of beets, there would be neither gain nor loss in changing from corn to beets, so far as concerns the returns to his labor. On the other hand, if the beets yielded only $25 per acre above expenses, the man would evidently earn better wages growing corn. The mere fact that one crop yields more per acre than another is therefore not at all conclusive as to which is the more profitable to the farmer. It follows that except for certain highly intensive crops, commanding but a limited market, such as vegetables and fruit, the system of very small farms which finds many advocates in the cities would mean, not only a higher cost of production per unit of output, but also a lower standard of living on the part of the farmers. In a word, it means the development in this country of the ignorant and narrow-minded peasant type represented by the famous picture of "The Man With the Hoe"; a type due less to oppression by kings and nobles, which Markham's poem naively assumed to be the cause, than to the very "hoe" from which the picture is named—that is, to generations of monotonous and exhausting hand labor, devoid of intelligence and of interest, on farms too small to permit the use of machinery.

On the other hand, the farmers in Minnesota who are enlarging their farms and machinery equipment are presumably moving in the direction of larger profits and a better living for themselves and their families, even though this may mean less labor on each acre, a smaller country population, and less business for the townspeople. Certainly the increase of the average farm up to the size giving maximum efficiency would offer an incentive for managerial ability to remain in the country, and, by raising the standard of living on the farm, would also tend to increase the attractions of country life.

The foregoing discussion, it should be noted, concerns greater intensity of cultivation with the same technique. In so far as new and better varieties of crops and stock, or more scientific methods of cultivation, are discovered and introduced, this conflict of interests between classes is fortunately suspended; since larger yields at less cost per unit are to the advantage both of city and country. Scientific agriculture rather than mere intensification of cultivation by the use of more labor of the same sort is consequently the road to social peace and general prosperity, whether it leads to smaller or to larger farms, and to a larger or a smaller country population. It is on this account that schools and colleges of agriculture as well as the agricultural experiment stations, are of such immense social, as well as economic, importance.

Relation of country population to land and values, 1850-1910

In order to see what has actually happened, decade by decade, and the relation of each to the following, summary charts are here presented concerning the period 1850-1910 so far as the data were collected by the census.

From Fig. 217 it is evident that the average size of farms declined from 1850 to 1870, since which time there has been a steady increase. At the same time, the proportion of improved land has continually mounted, the most rapid gain being from 1870 to 1880, and the least from 1900 to 1910. Stated in terms of population (Fig. 218), this means that there has been an increasing number of acres of improved land per capita of the country population in every decade; and so also of tilled land, except for the period 1900 to 1910, when considerable plow land was seeded down to pasture. In place of applying more labor to less land, the farmers of Minnesota are thus using more land with the same, or less, labor.

The financial results of this plan, from the viewpoint of the farmer, appear in Fig. 219. For the period 1870-1890, this diagram, like those based on land, shows a stagnant or declining value of products per capita and only a moderate increase in value of farms; but for the period 1890-1910, evidence again appears of abounding prosperity. What would have happened to the individual farmer if, with the same scientific knowledge and technique, there had been during these years a decreasing acreage of improved land per capita of the country population, is not difficult to conjecture. Certainly in such circumstances the dark period 1870-1890 would have created among us many a "man with a hoe" whom not even the prosperity following 1890 could have redeemed.

Farm tenure and indebtedness

In the matter of land tenure there were also some significant developments. Farms operated by full owners declined from 72.4 to 63.7 per cent from 1900 to 1910, while those operated by part owners increased from 9.6 to 14.5 per cent of all farms (Table 24, Items 390-393). Combining the two classes, it appears that farms operated by full or part owners declined from 82 to 78.2 per cent of all farms. On the other hand, farms operated by tenants increased from 17.3 to 21 per cent, and those operated by salaried managers, from 0.7 to 0.8 per cent of the total number of farms. These changes may be due in part to the fact previously noted that a number of "bonanza" farms of over 1,000 acres have been broken up and leased to tenants, who are presumably, in many cases, on the way to buy the lands they now occupy. The decline in owners, especially full owners, is, however, too con-

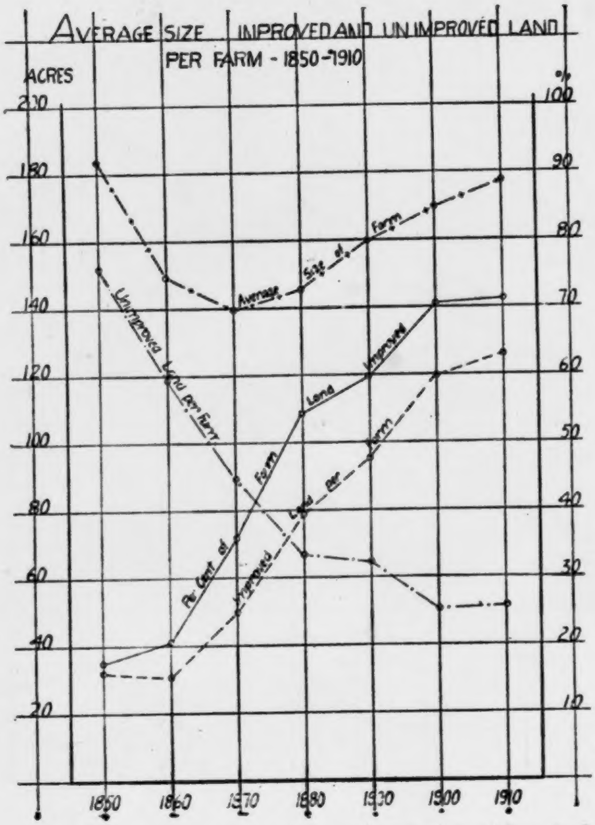


Figure 217. Average size of farms and proportion of farm land improved. 1850-1910. (See Table XXXVI)

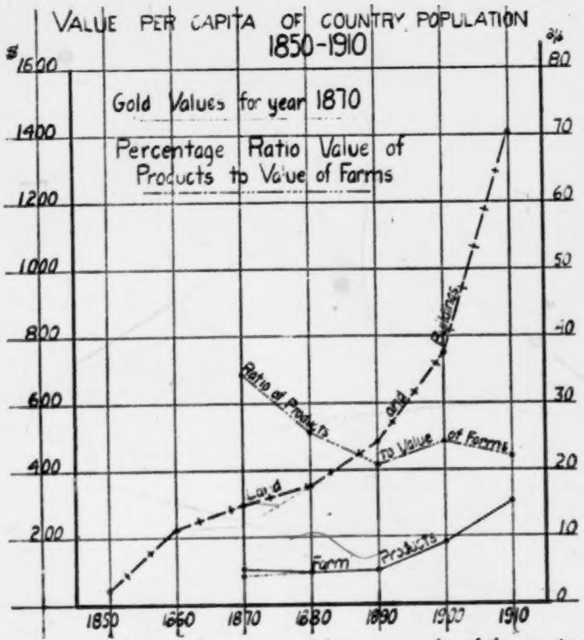


Figure 219. Values of products and farms per capita of the country population, 1850-1910. (Based on Tables XXXV and XXXVI)

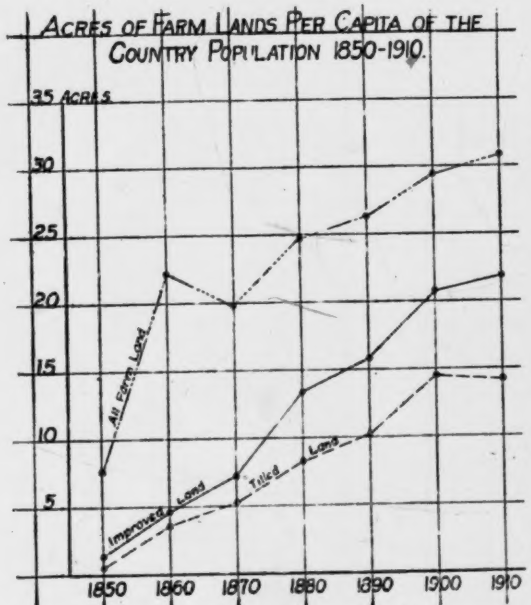


Figure 218. Acres of farm land per capita of the country population, 1850-1910*

*Land in farms and improved land as reported in the U. S. Census. Tilled area from following sources:

For 1850 and 1860, *Statistics of Minn.*, 1869, 5.

For 1870, *Ibid.*, 1872, 9.

For 1880 to 1910. Calculated by adding all reported acreages of individual crops from the U. S. Census, and in case of 1880 and 1890 supplementing from *Statistics of Minnesota* for all crops for which the census gave no acreage.

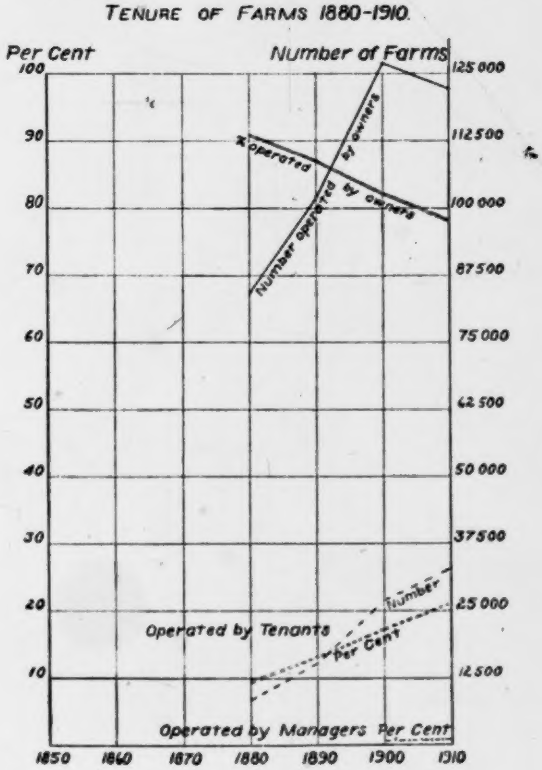
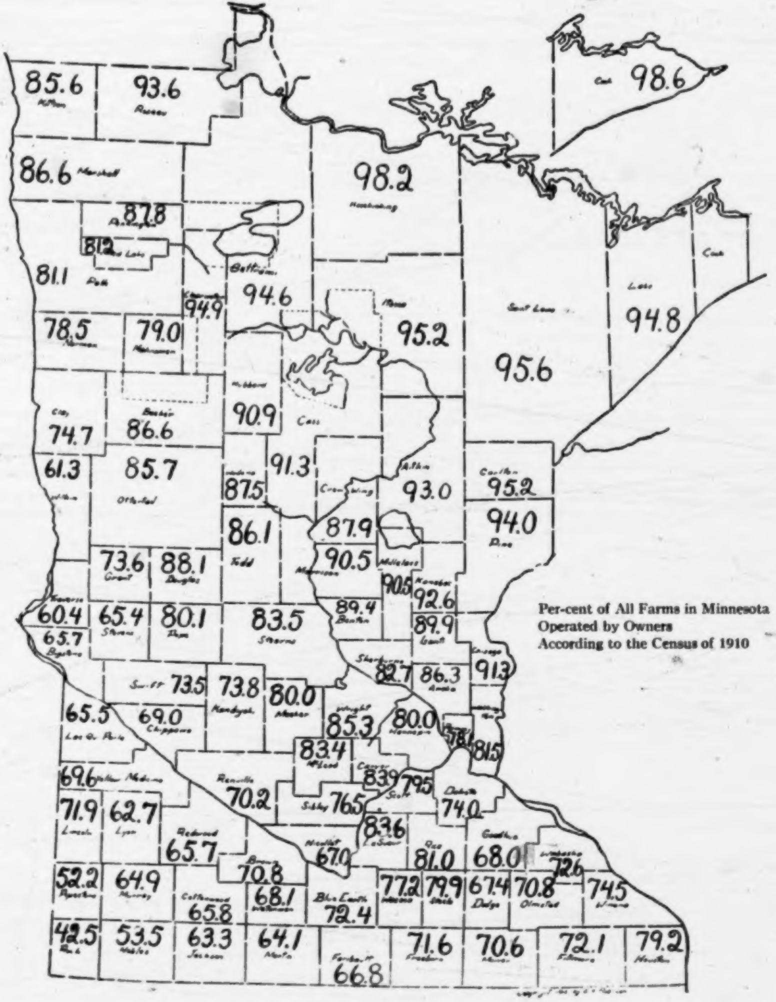


Figure 220. Tenure of Farms, 1880-1910.

siderable to be explained solely or even mainly on this ground. The increase in farms operated by managers probably testifies to the influence of the colleges of agriculture, which are turning out young men well trained for such positions.

The relation of these changes to conditions during previous decades has already been shown in Fig. 220. From this it appears that the percentage of farms operated by owners has declined steadily, and almost uniformly, from 1880, when the first report was made on tenure, to 1910. Moreover, the absolute number of farms operated by owners, after increasing rapidly from 1880 to 1900, also began to decrease thereafter. On the whole it is impossible to avoid the conclusion that some fundamental forces have been at work tending to supplant landowning farmers with tenant farmers.

Some clue as to the nature of these forces may be found by observing how the several classes of farms were distributed over the State (Fig. 221).


85.6
93.6
98.6
86.6
98.2
87.8
81.2
81.1
94.9
94.6
95.2
95.6
94.8
78.5
79.0
74.7
86.6
90.9
61.3
85.7
91.3
87.5
93.0
95.2
94.0
86.1
87.9
73.6
88.1
90.5
90.5
92.6
60.4
65.4
80.1
83.5
89.4
89.9
65.7
73.5
73.8
80.0
82.7
86.3
91.3
65.5
69.0
85.3
80.0
81.5
83.4
83.9
79.5
69.6
70.2
76.5
74.0
71.9
62.7
65.7
83.6
67.0
81.0
68.0
72.6
52.2
64.9
70.8
68.1
77.2
79.9
67.4
70.8
74.5
65.8
72.4
42.5
53.5
63.3
64.1
71.6
70.6
72.1
79.2
66.8

Per-cent of All Farms in Minnesota
Operated by Owners
According to the Census of 1910

Figure 221. Percentage of farms operated by owners in 1910.
(Based on Table XXXVI)

A glance at this map shows that the percentage of landowning farmers varies from 98.6 in Cook to 42.5 in Rock County, being on the whole greatest in the newest parts of the State, where land is cheapest, and least in the oldest sections, where land is dearest. There is also evident a variation with the type of farming and the size of the farm. Thus, the southeastern counties, where the farms are smaller and devoted chiefly to dairying, have a materially larger proportion of farms operated by owners than the southwestern counties. A dairy herd evidently needs the care of the owner, and, owing to the large capital required, dairy herds can seldom be supplied by tenants. Again, the counties immediately around the Twin Cities, where farms average smaller, and more intensive use of the soil prevails, show a higher proportion of landowning farmers than counties farther west.

In fact, the eastern half of the State, originally wooded and now devoted to dairying and mixed farming, has been conspicuously less invaded by tenancy than the western grain-growing section.

These inferences as to the relation of value of land and size of farm to tenancy are confirmed by comparing farms operated by owners and by tenants. Thus, the average farm operated by full or part owner in 1910 contained 169.3 acres, an increase since 1900 of 4.5 acres or 2.7 per cent; and was worth $44.53 per acre, an increase since 1900 of $19.64 or 78.9 per cent. On the other hand, farms operated by tenants contained on the average 200.9 acres worth $48.71 per acre, and farms operated by managers averaged 338.6 acres, worth $50.54 per acre. The value of farms in 1910 thus averaged $7,538 per farm for owners, $9,789 for tenants, and $17,111 for managers. Evidently, the larger the farm and the greater the value per acre, the more difficult it is for tenants to buy, and, therefore, the greater is the proportion who fail to become landowners, in case the original owners abandon farming (Table 24, Items 389-436).

Conflicting influences are thus set in motion by the increasing size of farms. On the one hand, it renders farming more attractive for landowning farmers. On the other hand, it renders tenancy more surely permanent; and it is a well established fact that tenants on the average take less part in farmers' coöperative movements and show less interest in community projects than resident landowners.

The figures for farm indebtedness show that mortgaged farms increased from 44.8 to 46.3 per cent of the total, mortgaged and unmortgaged. Owing to the defective character of the report on indebtedness in 1900, it is not possible to make a comparison on other points. This is, however, possible for 1890 (Table 24, Items 443-449). For the twenty-year period 1890-1910 the number of farms mortgaged declined 9.9 per cent and the ratio of debt to value of farms declined from 31.6 to 26.4, or 16.5 per cent, while the average equity of the owner per farm increased from $1,760 to $5,198, or 195.3 per cent. The great increase of land values was thus enriching the man who held the title, even though he had failed to remove the mortgage. On the other hand, this same increase of value was building a constantly higher barrier between tenancy and landownership.

As conditions are in this country, whatever hinders the purchase of farms by tenants works for a permanent and ever-increasing system of land tenancy. In various ways landownership gravitates toward the cities. For one thing, the migration of young people to the cities causes many farms to pass by inheritance to urban residents, who rarely return to the country to work their farms. Again, other farms are purchased by business or professional men for investment or speculative purposes. Still others, and these the larger number, are given over to tenants when the owners retire to the cities to spend their later years. In some cases, indeed, these farms are left in charge of a son or son-in-law who will presumably become the owner; but in a typical township this was true in only 13 per cent of the cases.[66] For the most part the movement of landowning farmers to towns and cities means the permanent increase of tenancy, except in so far as tenants alien to the family are able to purchase the land. This movement city-ward also tends to deprive the country of its natural leaders in all plans, public and private, for the betterment of rural life.

To check the increase of tenancy from these causes, two courses are open: either to facilitate purchase by tenants, in spite of the increasing size and value of farms in this section of the country, or to lessen the migration of landowning farmers to the cities. In order to facilitate purchase, the most promising plan would appear to be the provision of capital at lower interest rates through the improvement of rural credit facilities; provided some method can be devised of preventing town investors and speculators from taking advantage of such lower rates to buy up still more farm land. Obviously this is a difficult task, though perhaps not insuperable. In order to check the migration of farmers to the cities, country life must be made more attractive. This is largely, though by no means exclusively, a matter of education.

Certainly the problem presented by the steady increase of farm tenancy is one not only of economic interest and importance but of great social and political significance as well. American democracy in the past has been the product of the landowning farmer; and on the agricultural changes now in progress, which appear to threaten his existence, depends in great measure the future constitution of American society.

TABLE 24.—PROGRESS OF AGRICULTURE, 1900 TO 1910, ACCORDING TO THE U. S. CENSUS

Items	1900	1910	Percentage of increase or decrease	Per 100 of the country population	
				1900	1910
I. Population:					
1. Country population	890,252	898,550	.9	....	....
2. Town population	861,142	1,177,158	36.7	....	....
3. Total population	1,751,394	2,075,708	18.5	....	....
II. Acreage:					
4. Improved land, acres	18,442,585	19,643,533	6.5	2,071.6	2,186.1
5. Woodland, acres	(No report)	3,922,391	....	....	436.5
6. Other unimproved land, acres	(No report)	4,109,899	....	....	457.4
7. Total unimproved land, acres	7,805,913	8,032,290	2.9	876.8	893.9
8. Total land in farms, acres	26,248,498	27,675,823	5.4	2,948.4	3,080.1
9. Percentage of farm land improved	70.3	71.0	.1	....	....

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[66] *University of Minnesota Studies in Economics*, No. 1, 5.

Items	1900	1910	Percentage of increase or decrease	Per 100 of the country population	
				1900	1910
10. Percentage of land area in farms, acres	50.7	53.5	5.6	....	....
11. Number of farms	154,659	156,137	1.0	17.4	17.4
12. Average size of farms, acres	169.7	177.3	4.5	....	....
13. Average improved land per farm, acres	119.2	125.8	5.5	....	....
III. Farms by size groups:					
14. Under 3 acres, number	555	294	—47.0	.06	.03
15. Under 3 acres, percentage of total	.4	.2	—50.0	....	....
16. 3 to 9 acres, number	1,994	2,555	28.1	.22	.28
17. 3 to 9 acres, percentage of total	1.3	1.6	23.6	....	....
18. 10 to 19 acres, number	2,254	2,770	22.9	.25	.31
19. 10 to 19 acres, percentage of total	1.5	1.8	20.0	....	....
20. Total under 20 acres, number	4,803	5,619	17.0	.54	.63
21. Total under 20 acres, percentage of total farms	3.1	3.6	16.2	....	....
22. Total under 20 acres, percentage of all farm land	.2	.2	0.0	....	....
23. Total under 20 acres, percentage of improved land	.2	.2	0.0	....	....
24. Total under 20 acres, percentage of total value of land and buildings	.9	1.1	22.2	....	....
25. 20 to 49 acres, number	13,278	12,028	—9.4	1.49	1.34
26. 20 to 49 acres, percentage of total farms	8.6	7.7	—10.5	....	....
27. 20 to 49 acres, percentage of all farm land	1.9	1.6	—15.8	....	....
28. 20 to 49 acres, percentage of improved land	1.5	1.2	—20.0	....	....
29. 20 to 49 acres, percentage of total value of land and buildings	2.6	2.3	—11.5	....	....
30. 50 to 99 acres, number	30,990	26,571	—14.3	3.48	2.96
31. 50 to 99 acres, percentage of total farms	20.0	17.0	—15.0	....	....
32. 50 to 99 acres, percentage of all farm land	8.8	7.4	—15.9	....	....
33. 50 to 99 acres, percentage of improved land	7.7	6.4	—16.9	....	....
34. 50 to 99 acres, percentage of total value of land and buildings	10.4	8.5	—18.3	....	....
35. 100 to 174 acres, number	56,785	55,424	—2.4	6.38	6.17
36. 100 to 174 acres, percentage of total farms	36.7	35.5	—3.3	....	....
37. 100 to 174 acres, percentage of all farm land	32.4	29.0	—10.5	....	....
38. 100 to 174 acres, percentage of improved land	30.6	26.7	—12.7	....	....
39. 100 to 174 acres, percentage of total value of land and buildings	31.1	28.2	—9.3	....	....
40. 175 to 259 acres, number	24,933	27,972	12.2	2.80	3.11
41. 175 to 259 acres, percentage of total	16.1	17.9	11.2	....	....
42. 260 to 499 acres, number	20,540	24,864	21.1	2.31	2.77
43. 260 to 499 acres, percentage of total	13.3	15.9	19.5	....	....
44. 175 to 499 acres, number	45,473	52,836	16.2	5.11	5.88

Items	1900	1910	Percentage of increase or decrease	Per 100 of the country population	
				1900	1910
45. 175 to 499 acres, percentage of total farms	29.4	33.8	15.0	....	....
46. 175 to 499 acres, percentage of all farm land	47.1	52.4	11.3	....	....
47. 175 to 499 acres, percentage of improved land	50.4	55.5	10.1	....	....
48. 175 to 499 acres, percentage of total value of land and buildings	46.9	51.8	10.5	....	....
49. 500 to 999 acres, number	2,965	3,359	13.3	.33	.37
50. 500 to 999 acres, percentage of total farms	1.9	2.2	15.8	....	....
51. 500 to 999 acres, percentage of all farm land	7.1	7.7	8.5	....	....
52. 500 to 999 acres, percentage of improved land	7.5	8.2	9.3	....	....
53. 500 to 999 acres, percentage of total value of land and buildings	6.3	6.8	7.9	....	....
54. 1,000 acres and over, number	365	300	—17.8	.04	.03
55. 1,000 acres and over, percentage of total farms	.2	.2	0.0	....	....
56. 1,000 acres and over, percentage of all farm land	2.4	1.7	—29.2	....	....
57. 1,000 acres and over, percentage of improved land	2.1	1.7	—23.5	....	....
58. 1,000 acres and over, percentage of total value of land and buildings	1.8	1.4	—22.2	....	....
IV. Crop Products:					
59. Wheat, acres	6,560,707	3,276,911	—50.1	736.9	364.7
60. Wheat, bushels	95,278,660	57,094,412	—40.1	10,702.4	6,354.1
61. Wheat, value	$50,601,948	$56,007,435	10.7	$5,684.00	$6,233.09
62. Oats, acres	2,201,325	2,977,258	35.2	247.3	331.3
63. Oats, bushels	74,054,150	93,897,717	26.8	8,318.3	10,449.9
64. Oats, value	$15,829,804	$34,023,389	114.9	$1,778.13	$3,786.47
65. Barley, acres	877,845	1,573,761	79.3	98.6	175.1
66. Barley, bushels	24,314,240	34,927,773	43.6	2,731.2	3,881.1
67. Barley, value	$7,220,739	$17,213,817	138.4	$811.09	$1,915.73
68. Rye, acres	118,869	266,567	124.3	13.4	29.7
69. Rye, bushels	1,866,150	4,426,028	137.2	209.6	492.6
70. Rye, value	$783,852	$2,679,987	241.9	$88.05	$300.26
71. Buckwheat, acres	6,700	10,309	53.9	.8	1.1
72. Buckwheat, bushels	82,687	144,861	75.2	9.3	16.1
73. Buckwheat, value	$43,741	$89,058	103.6	$4.91	$9.91
74. Emmer and spelt, acres	(No report)	30,891	....	....	3.4
75. Emmer and spelt, bushels	(No report)	757,339	....	....	84.3
76. Emmer and spelt, value	(No report)	$338,841	....	....	$37.71
77. Total small grains, acres	9,765,446	8,135,697	—16.7	1,096.9	905.4
78. Total small grains, bushels	195,595,887	191,248,130	—2.2	21,970.8	21,284.1
79. Total small grains, value	$74,480,084	$110,352,527	48.2	$8,366.18	$12,281.18
80. Corn, acres	1,441,580	2,004,068	39.0	161.9	223.0
81. Corn, bushels	47,256,920	67,897,051	43.7	5,308.3	7,556.3
82. Corn, value	$11,337,105	$30,510,145	169.1	$1,273.48	$3,395.49
83. Kafir corn and Milo maize, acres	43	75	74.5	.005	.008
84. Kafir corn and Milo maize, bushels	1,096	3,335	204.3	.12	.39
85. Kafir corn and Milo maize, value	$366	$1,466	300.5	$0.04	$0.16

Items	1900	1910	Percentage of increase or decrease	Per 100 of the country population	
				1900	1910
86. Peas, dry, acres	670	835	24.6	.08	.09
87. Peas, dry, bushels	9,021	14,964	65.9	1.0	1.7
88. Peas, dry, value	$9,338	$18,384	96.9	$1.05	$2.04
89. Beans, dry, acres	3,290	4,697	42.8	.4	.5
90. Beans, dry, bushels	36,317	62,822	73.0	4.1	7.0
91. Beans, dry, value	$49,685	$124,996	151.6	$5.58	$13.91
92. Irish potatoes, acres	146,659	223,692	52.5	16.5	24.9
93. Irish potatoes, bushels	14,643,327	26,802,948	83.0	1,644.8	2,982.9
94. Irish potatoes, value	$3,408,997	$7,685,259	125.4	$382.92	$855.29
95. Sweet potatoes, acres	4	Less than 1 acre	....	.0005	.0001
96. Sweet potatoes, bushels	136	50	—63.2	.015	.006
97. Sweet potatoes, value	$149	$80	—46.3	$0.02	$0.009
98. Flaxseed, acres	566,801	358,426	—36.8	63.7	39.9
99. Flaxseed, bushels	5,895,479	3,277,238	—44.4	662 2	364.7
100. Flaxseed, value	$5,898,556	$4,863,328	—17.6	$662.57	$541.24
101. Clover seed, bushels	8,034	48,013	497.6	.9	5.3
102. Clover seed, value	$34,536	$326,299	844.8	$3.88	$36.31
103. Grass seed, bushels	561,973	945,666	68.3	62.2	105.2
104. Grass seed, value	$529,301	$1,496,438	182.7	$59.46	$166.54
105. Peanuts, acres	0	1	....	....	.0001
106. Peanuts, bushels	0	15	....	....	.002
107. Peanuts, value	0	$34	....	....	$0.004
108. Total bushel crops, bushels	263,999,060	290,300,232	10.0	29,654.4	32,307.6
109. Total bushel crops, value	$95,748,117	$155,378,956	62.3	$10,755.17	$17,292.19
Hay and Forage Crops:					
110. Wild, salt and prairie grasses, acres	2,196,623	1,988,664	—9.4	246.7	221.3
111. Wild, salt and prairie grasses, tons	2,842,234	2,714,121	—4.5	319.3	302.1
112. Wild, salt and prairie grasses, value	(No report)	$9,609,031	....	....	$1,069.39
113. Millet and Hungarian grasses, acres	58,339	27,136	—53.5	6.6	3.0
114. Millet and Hungarian grasses, tons	93,954	50,383	—46.4	10.6	5.6
115. Millet and Hungarian grasses, value	(No report)	$231,527	....	....	$25.77
116. Alfalfa, acres	658	2,288	247.8	.07	.25
117. Alfalfa, tons	1,781	6,314	254.6	.20	.70
118. Alfalfa, value	(No report)	$44,540	....	....	$4.96
119. Clover, acres	74,669	57,358	—23.2	8.4	6.3
120. Clover, tons	128,767	106,334	—17.4	14.5	11.8
121. Clover, value	(No report)	$572,799	....	....	$63.74
122. Timothy and clover mixed, acres	(No report)	829,600	....	....	92.3
123. Timothy and clover mixed, tons	(No report)	1,433,075	....	....	159.5
124. Timothy and clover mixed, value	(No report)	$7,915,659	....	....	$880.94
125. Timothy alone, acres	(No report)	780,375	....	....	86.8
126. Timothy alone, tons	(No report)	1,101,510	....	....	123.0
127. Timothy alone, value	(No report)	$5,913,196	....	....	$658.08
128. Other cultivated grasses, acres	754,246	118,493	—84.3*	84.7	13.2
129. Other cultivated grasses, tons	1,114,459	188,371	—83.1	125.2	21.0
130. Other cultivated grasses, value	(No report)	$793,169	....	....	$88.27
131. Total cultivated hay and forage, acres	961,067	1,957,408	103.7	108.0	217.8
132. Total cultivated† hay and forage, tons	1,497,094	3,322,626	121.9	168.2	369.8

*Decrease due to difference in definition.

†Excluding corn stalks.

Items	1900	1910	Percentage of increase or decrease	Per 100 of the country population	
				1910	1910
133. Total cultivated hay and forage, value	(No report)	$17,115,770	....	....	$1,904.82
134. Grains cut green for hay, acres	26,304	19,981	—24.0	3.0	2.2
135. Grains cut green for hay, tons	45,633	31,060	—31.9	5.1	3.5
136. Grains cut green for hay, value	(No report)	$143,120	....	....	$15.93
137. Forage crops sown for forage, acres	46,851	121,619	159.6	5.3	13.5
138. Forage crops sown for forage, tons	112,500	401,614	257.0	12.6	44.7
139. Forage crops sown for forage, value	(No report)	$1,471,445	....	....	$163.76
140. Root forage, acres	(No report)	558	....	....	.06
141. Root forage, tons	(No report)	3,965	....	....	.44
142. Root forage, value	(No report)	$30,315	....	....	$3.37
143. Total hay and forage, acres	3,157,690	3,946,072	25.0	354.7	439.2
144. Total hay and forage, tons	4,339,328	6,036,747	39.1	487.4	671.8
145. Total hay and forage, value	(No report)	$26,724,801	....	....	$2,974.21
146. Tobacco, acres	117	150	28.2	.01	.02
147. Tobacco, pounds	127,730	173,321	35.7	14.3	19.3
148. Tobacco, value	$12,869	$20,554	59.7	$1.45	$2.29
149. Hops, acres	Less than 1 acre	Less than 1 acre	....	Less than .0001	Less than .0001
150. Hops, pounds	51	372	629.5	.006	.04
151. Hops, value	$9	$38	322.2	$0.001	$0.004
152. Broom corn, acres	149	13	—91.0	.017	.001
153. Broom corn, pounds	76,960	10,259	—86.7	8.6	1.1
154. Broom corn, value	$4,121	$738	—82.3	$0.46	$0.08
155. Maple sugar, pounds	29,580	11,399	—61.5	3.3	1.3
156. Maple sugar, value	$2,733	$1,742	—36.3	$0.31	$0.19
157. Maple syrup, gallons	1,079	17,808	1,550.4	.12	2.0
158. Maple syrup, value	$939	$21,620	2,202.4	$0.10	$2.41
159. Sorghum, acres	2,283	1,709	—25.1	.25	.2
160. Sorghum, production, tons	14,369	13,253	—7.8	1.6	1.5
161. Sorghum, production, value	$59,714	$83,966	40.6	$6.71	$9.34
162. Sorghum, used as forage, tons	(No report)	396	....	....	.04
163. Sorghum, used for syrup, tons	(No report)	12,857	....	....	1.4
164. Sorghum syrup, gallons	157,605	143,934	—8.7	17.7	16.0
165. Sugar beets, acres	2,114	2,238	5.9	.24	.25
166. Sugar beets, tons	15,959	24,140	51.3	1.8	2.7
167. Sugar beets, value	$59,826	$118,625	98.3	$6.72	$13.20
168. Sugar beets used as forage, tons	(No report)	384	....	....	.04
169. Sugar beets used for sugar, tons	(No report)	23,756	....	....	2.6
170. Flax fiber and straw, tons sold	(No report)	10,704	....	....	1.2
171. Flax fiber and straw, amount received	(No report)	$55,209	....	....	$6.15
172. Other straw, tons sold	(No report)	14,294	....	....	1.6
173. Other straw, amount received	(No report)	$34,666	....	....	$3.86
174. Cornstalks and leaves, tons sold	(No report)	2,417	....	....	.3
175. Cornstalks and leaves, amount received	(No report)	$7,477	....	....	$0.83
176. Total receipts from sales of straw	$4,410	$97,352	2,107.5	$0.50	$10.83
177. Vegetables (other than potatoes, sweet potatoes and yams), acres	28,361	46,021	62.3	3.2	5.1
178. Vegetables (other than potatoes, sweet potatoes and yams), value	$1,503,401	$3,359,052	123.4	$168.88	$373.83
179. Forest products of farms, total value	$2,602,335	$5,181,508	99.1	$292.32	$576.65

Items	1900	1910	Percentage of increase or decrease	Per 100 of the country population	
				1900	1910
180. Forest products, used on farms, value	(No report)	$3,023,761	....	....	$336.52
181. Forest products, cut and sold, value	(No report)	$2,024,725	....	....	$225.33
182. Standing timber sold, value	(No report)	$133,022	....	....	$14.80
Fruits and Nuts:					
183. Orchard fruits, trees of bearing age	1,096,444*	1,644,590	1900 data unreliable	123.2	183.0
184. Orchard fruits, trees not of bearing age	(No report)	1,787,107	....	....	198.9
185. Orchard fruits, bushels	143,655	1,066,659	642.5	16.1	118.7
186. Orchard fruits, value of product	$109,050	$801,112	634.6	$12.25	$89.16
187. Apples, trees bearing	875,905*	1,380,396	1900 data unreliable	98.4	153.6
188. Apples, trees not bearing	(No report)	1,571,816	....	....	175.7
189. Apples, bushels	120,143	1,044,156	769.1	13.5	116.2
190. Apples, value of product	(No report)	$769,114	....	....	$85.60
191. Peaches and nectarines, trees bearing	1,626*	1,571	1900 data unreliable	.2	.2
192. Peaches and nectarines, trees not bearing	(No report)	3,837	....	....	.4
193. Peaches and nectarines, bushels	190	599	215.3	.02	.06
194. Peaches and nectarines, value of product	(No report)	$659	....	....	$0.07
195. Pears, trees bearing	3,602*	2,792	1900 data unreliable	.4	.3
196. Pears, trees not bearing	(No report)	4,135	....	....	.5
197. Pears, bushels	226	400	77.0	.03	.04
198. Pears, value of product	(No report)	$465	....	....	$0.05
199. Plums and prunes, trees bearing	191,313*	233,736	1900 data unreliable	21.5	26.4
200. Plums and prunes, trees not bearing	(No report)	167,926	....	....	18.7
201. Plums and prunes, bushels	21,820	19,920	—8.7	2.4	2.1
202. Plums and prunes, value of product	(No report)	$27,808	....	....	$3.09
203. Cherries, trees bearing	19,882*	25,139	1900 data unreliable	2.2	2.8
204. Cherries, trees not bearing	(No report)	38,399	....	....	4.3
205. Cherries, bushels	960	1,526	59.0	.1	.17
206. Cherries, value of product	(No report)	$2,973	....	....	$0.33
207. Apricots, trees bearing	87*	66	1900 data unreliable	.01	.007
208. Apricots, trees not bearing	(No report)	175	....	....	.02
209. Apricots, bushels	2	10	400	.0002	.001
210. Apricots, value of product	(No report)	$13	....	....	$0.001
211. Quinces, trees bearing	(No report)	167	....	....	.02
212. Quinces, trees not bearing	(No report)	681	....	....	.08
213. Quinces, bushels	(No report)	2	....	....	.0002
214. Quinces, value of product	(No report)	$5	....	....	$0.0006
215. Grapes, vines bearing	138,175*	61,916	1900 data unreliable	15.6	6.9
216. Grapes, vines not bearing	(No report)	35,950	....	....	4.0
217. Grapes, pounds	573,272	293,805	—48.7	64.4	32.7

*Reported as trees of bearing age; thought by census to include some young trees. See 1910, General Report on Agriculture, p. 707.

Items	1900	1910	Percentage of increase or decrease	Per 100 of the country population	
				1900	1910
218. Grapes, value of product	$15,593	$11,021	—29.3	$1.75	$1.23
219. Cider, gallons	6,111	9,044	48.0	.7	1.0
220. Vinegar, gallons	3,339	5,778	73.0	.4	.6
221. Wine and grape juice, gallons	6,197	4,567	—26.3	.7	.5
222. Dried fruits (including raisins and dried grapes), pounds	500	2,853	470.6	.06	.32
223. Black walnuts, trees bearing	(No report)	7,036	....	....	.8
224. Black walnuts, trees not bearing	(No report)	6,307	....	....	.7
225. Black walnuts, pounds	(No report)	65,074	....	....	7.2
226. Black walnuts, value of product	(No report)	$1,490	....	....	$0.17
227. Pecans, trees bearing	None	6	....	....	.0007
228. Pecans, trees not bearing	(No report)	35	....	....	.004
229. Pecans, pounds	None	25	....	....	.003
230. Pecans, value of product	(No report)	$5	....	....	$0.0006
231. All nuts, trees bearing	(No report)	8,110	....	....	.9
232. All nuts, trees not bearing	(No report)	7,047	....	....	.8
233. All nuts, product, pounds	33,700	81,555	142.0	3.8	9.1
234. All nuts, value of product	$597	$1,838	207.9	$0.07	$0.20
Small Fruits:					
235. Strawberries, acres	1,302	1,873	43.9	.14	.21
236. Strawberries, quarts	2,506,020	2,730,099	8.9	281.5	303.8
237. Strawberries, value	(No report)	$268,772	....	....	$29.91
238. Blackberries and dewberries, acres	162	145	—10.5	.02	.016
239. Blackberries and dewberries, quarts	192,010	139,741	—27.2	21.6	15.6
240. Blackberries and dewberries, value	(No report)	$17,696	....	....	$1.97
241. Raspberries and loganberries, acres	1,115	1,388	24.5	.12	.15
242. Raspberries and loganberries, quarts	1,252,930	1,340,469	7.0	140.7	149.2
243. Raspberries and loganberries, value	(No report)	$178,689	....	....	$19.89
244. Cranberries, acres	22	61	177.3	.002	.007
245. Cranberries, quarts	35,840	22,112	—38.3	4.0	2.5
246. Cranberries, value	(No report)	$1,981	....	....	$0.22
247. Currants, acres	259	200	—22.8	.027	.022
248. Currants, quarts	311,950	182,825	—41.4	35.0	20.3
249. Currants, value	(No report)	$19,783	....	....	$2.20
250. Gooseberries, acres	112	71	—36.7	.01	.008
251. Gooseberries, quarts	128,250	60,661	—52.7	14.4	6.8
252. Gooseberries, value	(No report)	$6,412	....	....	$0.71
253. Total small fruits, acres	3,092	3,738	20.9	.35	.41
254. Total small fruits, quarts	4,542,640	4,476,575	—1.5	510.2	$498.2
255. Total small fruits, value	$339,569	$493,406	45.3	$38.14	$54.92
Flowers and Plants:					
256. Farms and establishments reporting	110	136	23.6	.012	.015
257. Flowers and plants, acres	143	163	14.0	.016	.018
258. Flowers and plants, value of products	$288,055	$603,935	109.7	$32.36	$67.21
259. Florists' establishments, area under glass, square feet	889,986	1,419,496	59.5	100.0	158.0
260. Nursery products, farms and establishments reporting, number	85	191	124.8	.01	.02
261. Nursery products, farms and establishments reporting, acreage	1,127	3,854	242.0	.12	.43

Items	1900	1910	Percentage of increase or decrease	Per 100 of the country population	
				1900	1910
262. Nursery products, farms and establishments reporting, value of products	$383,105	$863,014	125.3	$43.04	$96.05
263. Flower and vegetable seeds, value of	$9,249	$6,645	—28.2	$1.04	$0.74
V. Live Stock on Farms:					
264. Cattle, all, number	1,871,325	2,347,435	25.4	210.2	261.2
265. Cattle, all, value	$36,248,958	$50,306,372	38.8	$4,071.76	$5,598.62
266. Dairy cows, number	753,632	1,085,388	44.0	84.7	120.8
267. Dairy cows, value	$21,513,337	$33,276,653	54.7	$2,416.55	$3,703.37
268. Other cows, number	68,565	218,948	219.3	7.7	24.4
269. Other cows, value	$1,689,684	$4,616,179	173.2	$189.80	$513.74
270. Heifers, number	211,162	323,948	53.4	23.8	36.1
271. Heifers, value	$3,299,865	$3,842,647	16.4	$370.67	$427.65
272. Calves, number	565,994	373,537	—34.0	63.6	41.6
273. Calves, value	$4,254,414	$1,952,261	—54.1	$477.89	$217.27
274. Steers and bulls, number	271,972	345,614	27.1	30.6	38.5
275. Steers and bulls, value	$5,491,658	$6,618,632	20.5	$616.86	$736.59
276. Horses, all, number	696,469	753,184	8.1	78.2	83.8
277. Horses, all, value	$42,255,044	$89,068,872	110.8	$4,746.41	$9,912.51
278. Mature horses, number	599,566	675,509	12.7	67.3	75.2
279. Mature horses, value	$39,252,715	$84,779,112	116.0	$4,409.17	$9,435.10
280. Yearling horses, number	51,399	63,069	22.7	5.77	7.0
281. Yearling horses, value	$2,031,557	$3,840,249	89.0	$228.20	$427.86
282. Horse colts, number	45,504	14,606	—67.9	5.1	1.6
283. Horse colts, value	$970,772	$449,511	—53.7	$109.04	$50.08
284. All mules, number	8,339	5,775	—30.8	.9	.6
285. All mules, value	$486,580	$732,723	50.6	$54.65	$81.64
286. Mature mules, number	6,804	5,213	—23.4	.8	.6
287. Mature mules, value	$422,878	$697,451	64.9	$47.50	$77.71
288. Yearling mules, number	813	444	—45.4	.1	.05
289. Yearling mules, value	$39,020	$31,077	—20.4	$4.39	$3.46
290. Mule colts, number	722	118	—69.8	.08	.01
291. Mule colts, value	$24,682	$4,195	—83.0	$2.77	$0.47
292. All asses and burros, number	161	219	36.0	.02	.02
293. All asses and burros, value	$11,475	$22,857	99.2	$1.29	$2.55
294. All swine, number	1,440,806	1,520,257	5.5	161.8	169.4
295. All swine, value	$5,865,590	$13,929,127	137.8	$658.87	$1,551.91
296. All sheep, number	589,878	637,582	8.1	66.3	71.0
297. All sheep, value	$1,740,088	$2,693,424	54.8	$195.46	$300.09
298. Ewes, number	329,984	417,652	56.9	37.1	46.5
299. Ewes, value	$1,205,275	$2,190,295	81.7	$135.38	$244.03
300. Rams and wethers, number	29,344	34,419	17.3	3.3	3.8
301. Rams and wethers, value	$124,256	$193,642	55.8	$13.96	$21.57
302. Lambs, number	230,550	185,511	—19.5	25.9	20.7
303. Lambs, value	$410,557	$309,487	—24.6	$46.12	$34.48
304. Goats, number	3,821	4,588	20.0	.44	.51
305. Goats, value	$12,908	$18,480	43.2	$1.45	$2.06
306. All domestic animals (except poultry), number	4,610,799	5,269,040	14.3	517.9	586.4
307. All domestic animals (except poultry), value	$86,620,643	$156,771,855	81.0	$9,729.90	$17,466.64
VI. Poultry and Bees on Farms:					
308. All fowls, number	8,142,693	10,697,075	31.4	914.6	1,191.8
309. All fowls, value	$2,274,649	$4,646,960	104.3	$255.51	$517.74

Items	1900	1910	Percentage of increase or decrease	Per 100 of the country population	
				1900	1910
310. Chickens, number	7,730,940	10,293,849	33.1	868.4	1,146.9
311. Chickens, value	(No report)	$4,231,729	....	....	$471.48
312. Turkeys, number	193,143	147,335	—23.7	21.7	16.4
313. Turkeys, value	(No report)	$224,096	....	....	$24.97
314. Ducks, number	127,635	94,269	—26.1	14.3	10.5
315. Ducks, value	(No report)	$55,322	....	....	$6.16
316. Geese, number	90,975	105,161	15.6	10.2	11.7
317. Geese, value	(No report)	$122,596	....	....	$13.66
318. Guinea fowls, pigeons, and pea fowls, number	(No report)	56,461	....	....	6.3
319. Guinea fowls, pigeons, and pea fowls, value	(No report)	$13,217	....	....	$1.47
320. Colonies of bees, number	45,877	56,677	23.6	5.2	6.3
321. Colonies of bees, value	$167,280	$221,781	32.6	$18.79	$24.71
VII. Animal Products:					
322. Value of dairy products of farms	$16,623,460*	$30,629,649†	84.3	$1,867.28	$3,412.58
323. Average value, per farm	$119	$218	83.2	....	....
324. Average value, per cow	$22.06	$28.22	27.9	....	....
325. Milk produced, gallons	304,017,106‡	409,191,276¶	34.6	34,149.6	45,589.8
326. Butter made on farms, pounds	41,188,846	34,708,669	—15.7	4,626.7	3,867.0
327. Butter made on farms, value	(No report)	$8,593,233	....	....	$957.41
328. Butter made in factories,‖ pounds	41,174,469	88,842,846	115.8	4,625.0	9,898.4
329. Total butter, pounds	82,363,315	123,551,515	50.0	9,251.7	13,765.4
330. Cheese made on farms, pounds	290,623	106,075	—63.5	32.6	11.8
331. Cheese made on farms, value	(No report)	$14,375	....	....	$1.60
332. Cheese made in factories,‖ pounds	3,285,019	2,735,883	—16.7	369.0	304.8
333. Total cheese, pounds	3,575,642	2,841,958	—20.5	401.6	316.6
Receipts from Sales and Quantity Sold:					
334. Milk sold, gallons	103,768,172	53,181,785	—48.7	11,656.0	5,925.2
335. Milk sold, amount received	$7,039,631	$6,146,512	—12.7	$790.75	$684.81
336. Cream sold, gallons	1,205,845	5,756,165	377.4	135.4	641.3
337. Cream sold, amount received	$551,992	$3,542,993	541.9	$62.00	$394.74
338. Butter fat sold, pounds	(No report)	40,414,151	....	....	4,502.7
339. Butter fat sold, amount received	(No report)	$10,922,293	....	....	$1,216.90
340. Butter sold, pounds	22,376,084	18,016,409	—19.5	2,513.5	2,007.3
341. Butter sold, amount received	$3,500,323	$4,591,554	31.2	$393.19	$511.57
342. Cheese sold, pounds	227,878	79,045	—65.3	25.6	8.8
343. Cheese sold, amount received	$22,745	$10,870	—52.2	$2.55	$1.21
344. All dairy products, receipts from sales	$11,114,691	$25,214,222	126.9	$1,248.48	$2,809.23
345. Wool, number of fleeces shorn§	376,009	453,583	20.6	42.2	50.5
346. Wool, pounds§	2,612,737	3,259,282	24.7	293.5	361.1
347. Wool, value§	$460,305	$816,866	77.5	$51.71	$91.01
348. Mohair, number of fleeces	350	1,952	457.7	.04	.22
349. Mohair, pounds	556	6,929	1,146.3	.06	.77
350. Mohair, value	$180	$1,987	1,003.9	$0.02	$0.22

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*Including home consumption.

†As estimated (excludes home consumption of milk and cream).

‡As published (includes estimates).

§Including estimates. See Census 1910, General Report on Agriculture, p. 492.

¶As estimated by Census Bureau. General Report on Agriculture, 1910, p. 476.

‖The number of factories producing cheese and butter were:

	1900	1910
By Census:		
Cheese factories Butter factories	596	784
By State Dairy Dept.:		
Cheese factories	73[1]	69[2]
Butter factories	690[1]	797[2]

[1] Reported for 1901.

[2] Reported for 1909 season.

Items	1900	1910	Percentage of increase or decrease	Per 100 of the country population	
				1900	1910
351. Poultry raised,* number	(No report)	11,862,787	....	....	1,321.7
352. Poultry raised,* value	$2,927,717	$4,714,919	61.0	$328.87	$525.31
353. Eggs produced,* dozens	43,208,130	53,807,974	24.5	4,853.5	5,995.0
354. Eggs, produced,* value	$4,437,148	$9,767,410	120.1	$498.41	$1,088.23
355. Honey, pounds	986,446	976,262	—1.0	110.8	108.8
356. Honey, value	(No report)	$120,560	....	....	$13.43
357. Beeswax, pounds	20,626	16,880	—18.2	2.3	1.9
358. Beeswax, value	(No report)	$4,057	....	....	$0.45
359. Value of honey and wax	$118,884	$124,617	4.8	$13.35	$13.88
360. Domestic animals sold, receipts from sales	$16,046,622	$34,121,517	112.6	$1,802.48	$3,801.63
361. Domestic animals slaughtered on farms, value	$4,908,051	$6,942,498	63.9	$551.31	$773.49
362. Value of all classes of domestic animals, sold or slaughtered	$20,954,673	$41,064,015	96.0	$2,353.79	$4,575.12
363. Sheep sold, receipts	(No report)	$1,153,716	....	....	$128.54
364. Sheep slaughtered, value	(No report)	$71,202	....	....	$7.93
365. Swine sold, receipts	(No report)	$13,999,240	....	....	$1,559.71
366. Swine slaughtered, value	(No report)	$4,908,163	....	....	$546.84
367. Cattle (excluding calves), sold, receipts	(No report)	$11,958,640	....	....	$1,332.36
368. Cattle (excluding calves), slaughtered, value	(No report)	$1,528,060	....	....	$170.25
369. Calves sold, receipts	(No report)	$1,067,071	....	....	$118.89
370. Calves slaughtered, value	(No report)	$434,501	....	....	$48.41
371. Horses sold, receipts	(No report)	$5,847,186	....	....	$651.46
372. Mules sold, receipts	(No report)	$85,498	....	....	$9.53
VIII. Farm Values:					
373. All farm property	$788,684,642	$1,476,411,737	87.2	$88,591.17	$164,493.52
374. Land (without buildings)	$559,301,900	$1,019,102,027	82.2	$62,825.12	$113,542.63
375. Buildings	$110,220,415	$243,339,399	120.8	$12,380.81	$27,111.51
376. Farms (including buildings)	$669,522,315	$1,262,441,426	88.6	$75,205.93	$140,654.15
377. Implements and machinery	$30,099,230	$52,329,165	73.9	$3,380.98	$5,830.22
378. Live stock	$89,063,097	$161,641,146	81.5	$10,004.26	$18,009.15
379. Value of all crops	(No report)	$193,451,474	....	....	$21,553.28
380. Value of all live stock products	(No report)	$43,536,726	....	....	$4,850.62
381. Receipts from sale of animals	$16,046,622	$34,121,517	112.6	$1,802.48	$3,801.63
382. Value of animals slaughtered	$4,908,051	$6,942,498	63.9	$551.31	$773.49
383. Expended for labor (including board)	$16,657,820	$22,330,149	34.1	$1,871.14	$2,487.90
384. Fertilizers purchased	$251,120	$74,653	—70.2	$28.21	$8.32
385. Feed purchased	(No report)	$5,041,925	....	....	$557.74
386. Value of farm products fed to livestock	$33,257,480	(No report)	....	$3,735.74	....
387. Value of products not fed	$127,959,824	(No report)	....	$14,373.44	....
388. Total value of farm products	$161,217,304	$278,052,215†	72.5	$18,109.18	$30,171.60†
IX. Farm Tenure:					
389. Number of all farms	154,659	156,137	1.0	17.4	17.4
Operated by owners:					
390. Operated by part owners, number	14,805	22,611	52.7	1.7	2.5

*Including estimates. See census 1910, General Report on Agriculture, p. 505.

†Sum of items 379 to 382, which include the following:

Value of all crops	$193,451,474
Value of dairy products excluding home use of milk and cream	29,219,406
Value of poultry and eggs produced	13,496,745
Value of honey and wax	124,617
Value of wool and mohair	695,958
Receipts from sale of animals	34,121,517
Value of animals slaughtered	6,942,498
	$278,052,215

Items	1900	1910	Percentage of increase or decrease	Per 100 of the country population	
				1900	1910
391. Operated by part owners, percentage of all farms	9.6	14.5	51.0	....	....
392. Operated by complete owners, number	112,004	99,493	—11.2	12.6	11.1
393. Operated by complete owners, percentage of all farms	72.4	63.7	—12.0	....	....
Total operated by owners:					
394. Number	126,809	122,104	—3.7	14.2	13.6
395. Percentage of all farms	82.0	78.2	—4.6	....	....
396. Area in acres	20,893,966	20,668,885	—1.1	2,347.0	2,300.2
397. Percentage of total land in farms	79.6	74.7	—6.2	....	....
398. Average size, acres	164.8	169.3	2.7	....	....
399. Improved land, acres	14,357,865	14,153,505	—1.4	1,612.8	1,575.1
400. Percentage of total improved land	77.8	72.1	—7.4	....	....
401. Average improved land, per farm, acres	113.2	115.9	2.4	....	....
402. Percentage of farm land improved	68.7	68.5	—0.3	....	....
403. Value of land and buildings	$519,971,545	$920,359,347	77.0	$58,407.23	$102,427.17
404. Percentage of total value of land and buildings	77.7	72.9	—6.2	....	....
405. Average value per farm	$4,100	$7,538	83.9	....	....
406. Average value per acre	$24.89	$44.53	78.9	....	....
Operated by managers:					
407. Number	1,095	1,222	11.6	.12	.13
408. Percentage of all farms	0.7	0.8	14.4	....	....
409. Area in acres	486,147	413,734	—14.9	54.6	46.0
410. Percentage of total land in farms	1.9	1.5	—21.1	....	....
411. Average size, acres	444.0	338.6	—23.7	....	....
412. Improved land, acres	293,012	285,241	—2.7	32.9	31.7
413. Percentage of total improved land	1.6	1.5	—6.3	....	....
414. Average improved land per farm, acres	267.6	233.4	—12.8	....	....
415. Percentage of farm land improved	60.3	68.9	14.3	....	....
416. Value of land and buildings	$11,703,470	$20,909,251	78.7	$1,314.62	$2,327.00
417. Percentage of total value of land and buildings	1.7	1.7	0.0	....	....
418. Average value per farm	$10,688	$17,111	60.1	....	....
419. Average value per acre	$24.07	$50.54	110.0	....	....
Operated by tenants:					
420. Operated by cash tenants, number	5,129	10,566	106.0	.6	1.2
421. Operated by cash tenants, percentage of all farms	3.3	6.8	106.1	....	....
422. Operated by share tenants, number	21,626	22,245	2.9	2.4	2.5
423. Operated by share tenants, percentage of all farms	14.0	14.2	1.4	....	....
Total operated by tenants:					
424. Number	26,755	32,811	22.6	3.0	3.7
425. Percentage of all farms	17.3	21.0	21.4	....	....
426. Area in acres	4,868,385	6,593,204	35.4	546.9	733.8
427. Percentage of total land in farms	18.5	23.8	28.7	....	....
428. Average size, acres	182.0	200.9	10.4	....	....
429. Improved land, acres	3,791,708	5,204,787	37.3	425.9	579.2
430. Percentage of total improved land	20.6	26.5	28.7	....	....

Items	1900	1910	Percentage of increase or decrease	Per 100 of the country population	
				1900	1910
431. Average improved land per farm, acres	141.7	158.6	11.9	....	....
432. Percentage of farm land improved	77.9	78.9	1.3	....	....
433. Value of land and buildings	$137,847,300	$321,172,828	60.4	$15,484.08	$35,743.46
434. Percentage of total value of land and buildings	20.6	25.4	23.4	....	....
435. Average value per farm	$5,152	$9,789	90.5	....	....
436. Average value per acre	$28.31	$48.71	72.1	....	....
X. Farm Indebtedness:					
437. Owned farms, total number†	125,405*	122,104	—2.6	13.7	13.6
438. Free from mortgage, number	66,922	65,038	—2.8	7.5	7.2
439. Free from mortgage, percentage of total‡	55.2	53.7	—2.7	....	....
440. Mortgaged, number	54,338	56,145	3.3	6.1	6.2
441. Mortgaged, percentage of total‡	44.8	46.3	3.4	....	....
442. Not specified, number	4,145	921	—77.8	.5	.1

ANALYSIS OF RETURNS FOR 1890 AND 1910 ON MORTGAGE INDEBTEDNESS

Items	1890¶	1910§	Percentage of increase or decrease	Per 100 of the country population	
				1890	1910
443. Number of farms or farm homes mortgaged	46,347	41,775§	—9.9	6.5	4.6
444. Value of land and buildings	$119,290,539	$295,015,775	147.3	$16,846.23	$32,832.43
445. Amount of mortgage debt	$37,709,574	$77,866,283	106.5	$5,325.35	$8,665.77
446. Percentage of debt to value	31.6	26.4	—16.5	....	....
447. Average value per farm	$2,574	$7,062	174.4	....	....
448. Average debt per farm	$814	$1,864	129.0	....	....
449. Average equity per farm	$1,760	$5,198	195.3	....	....

*Reported as "owned farm homes."
†Includes all farms owned in whole or in part by the operator.
‡Percentage of combined totals of mortgaged and unmortgaged.
¶Includes all owned farm homes, estimates being made (by the census) of value of farms and amount of debt for all defective reports.
§Includes only farms consisting wholly of owned land and reporting value of farm and amount of debt, whereas the figures in the 1900-1910 comparison are more inclusive.

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TABLE I.—ST. CROIX COUNTY, WISCONSIN (INCLUDING MINNESOTA EAST OF THE MISSISSIPPI), ACCORDING TO THE SIXTH CENSUS (1840)*

Items	Number, amounts and values
POPULATION:	
Whites, male	510
Whites, female	295
Total whites	805
Free negroes, male	3
Free negroes, female	1
Total free negroes	4
Total	809
LIVE STOCK AND PRODUCTS:	
Horses and mules	58
Cattle	434
Sheep	6
Swine	187
Poultry	130
Dairy products	$220
CROPS:	
Wheat, bushels	74
Barley, bushels	79
Oats, bushels	258
Corn, bushels	606
Potatoes, bushels	8,014
Hay, tons	447
FOREST PRODUCTS:	
Sugar, pounds	17,997
Wood sold, cords	275
Lumber, value	$2,000
Skins and furs	$43,000
Men employed	90
FISHERIES:	
Pickled fish, barrels	4,282
Fish oil	1,500
Capital invested	$54,000
Men employed	127
MANUFACTURES:	
Number of sawmills	3
Number of men employed	77
Value of vessels built	$3,500
Men employed in furniture manufactures	9
Number of homes built	55
Number of men employed building houses	79
Value of building done	$9,880
Total capital invested in manufacturing	$74,000
COMMERCE:	
Number of dry goods, grocery and other stores	7
Capital invested	$118,500

*This was the first census which made any report on agriculture.

TABLE II.—CENSUS OF MINNESOTA TERRITORY, JUNE 11, 1849*

County and Precinct	Males	Females	Total
1. St. Croix County:			
Stillwater precinct	455	154	609
Lake St. Croix Precinct	129	82	211
Marine Mills Precinct	142	31	173
St. Paul Precinct	540	300	840
Little Canada and St. Anthony Precinct	352	219	571
Osakis Rapids Precinct	92	41	133
Crow Wing Precinct	103	71	174
Crow Wing, east side	35	35	70
Falls of St. Croix Precinct	15	1	16
Snake River Precinct	58	24	82
Total civilians contained in ceded territory	1,921	958	2,879
2. Unorganized Territory:			
La Pointe County	12	10	22
Crow Wing and Long Prairie Precinct	235	115	350
Big Stone Lake and Lac qui Parle Precinct	33	35	68
Little Rock Precinct	20	15	35
Mendota	72	50	122
Crow Village (Kaposia)	9	7	16
Red Wing's Village	20	13	33
Prairieville (Shakopee)	9	13	22
Oak Grove	14	9	23
Black Dog's Village	7	11	18
Wabeshaw and Root River	78	36	114
Fort Snelling (civilians)	26	12	38
Total civilians in unorganized territories	535	326	861
Total civilians in present area of Minnesota†	2,456	1,284	3,740
3. Fort Snelling and Fort Gaines (Ripley) soldiers, women and children	267	50	317
4. Outside present State:			
Pembina	295	342	637
Missouri River	49	37	86
Total outside present state†	344	379	723
Total for territory	3,067	1,713	4,780

Journal of the House of Representatives, 1st sess., Appendix.

†Counting the Pembina settlement in Dakota, which it was in the main.

TABLE III.—Census of Minnesota Territory in 1850

Items	Benton County	Dakotah* County	Itasca County	Mankahta* County	Pembina County	Ramsey County	Wabashaw* County	Wahnahta* County	Washington County	Minnesota Territory
1. Whites, males	272	385	55	130	578	1,337	139	113	686	3,695
2. Whites, females	144	197	42	28	556	860	103	47	366	2,343
3. Total white population	416	582	97	158	1,134	2,197	242	160	1,052	6,038
4. Free colored, males	2	2	......	.....	......	13	1	.....	3	21
5. Free colored, females	......	......	......	.....	......	17	.....	.....	1	18
6. Total colored	2	2	......	.....	......	30	1	.....	4	39
7. Total population (except Indians)	418	584	97	158	1,134	2,227	243	160	1,056	6,077†
8. Number born in Minnesota	151	248	42	14	379	448	107	14	186	1,589‡
9. Others born in United States	183	147	48	77	26	1,215	102	113	600	2,511‡
10. Total native born	334	395	90	91	405	1,663	209	127	786	4,100‡
11. All others	84	189	7	67	729	564	34	33	270	1,977‡
12. Number of dwellings	71	78	23	16	188	384	55	26	161	1,002
13. Number of farms	20		36		17	19	8	9	48	157
14. Improved land in farms	405	......	100	.....	77	458	439	642	2,914	5,035
15. Unimproved land in farms	4,540	......	......	.....	2,068	2,832	560	500	13,346	23,846
16. Total land in farms	4,945	......	100	.....	2,145	3,290	999	1,142	16,250	28,881
17. Average size of farms	247	......	25	.....	126	173	125	127	339	184
18. Value of farms	$34,250	......	......	.....	$4,400	$32,270	$8,100	$5,064	$77,864	$161,948
19. Value of farm implements and machinery	$2,495	......	$200	.....	$415	$1,723	$1,675	$1,430	$8,043	$15,981
20. Horses, asses and mules	59	......	......	.....	518	208§	107	40	130	874
21. Milch cows	60	......	100‖	.....	145	34	59	13	196	607
22. Other cattle	186	......	2	.....	267	129	205	74	532	1,395
23. Sheep	......	......	......	.....	2	45	26	.....	7	80
24. Swine	42	......	......	.....	13	99	227	.....	353	734
25. Value of live stock	$11,925	......	$995	.....	$45,295	$5,005	$7,585	$6,365	$15,689	$92,859
26. Value of animals slaughtered	......	......	......	.....	......	......	$1,950	.....	$890	$2,840
Produce during year ending June 1, 1850:										
27. Wheat, bushels	......	......	10	.....	100	390	200	150	551	1,401
28. Rye, bushels	......	......	......	.....	......	......	100	.....	25	125
29. Corn, bushels	160	......	90	.....	60	1,615	1,855	1,115	11,830	16,725
30. Oats, bushels	60	......	......	.....	......	6,260	1,000	.....	23,262	30,582
31. Barley, bushels	......	......	......	.....	......	20	.....	.....	1,196	1,216
32. Buckwheat, bushels	......	......	......	.....	......	......	325	.....	190	515
33. Peas and beans, bushels	......	......	10	.....	......	9,585¶	250	.....	157	10,002
34. Total cereals and legumes (items 27-33)	220	......	110	.....	160	17,870	3,730	1,265	37,211	60,566
35. Potatoes, bushels	3,650	......	1,050	.....	......	......	7,105	.....	9,340	21,145
36. Sweet potatoes, bushels	......	......	......	.....	......	200	.....	.....	......	200
37. Total field crops (items 34-36)	3,870	......	1,160	.....	160	18,070	10,835	1,235	46,551	81,911
38. Hay, tons	1,121	......	43	.....	......	100	.....	.....	755	2,019
39. Market gardens, value of produce	......	......	......	.....	......	......	.....	.....	$150	$150
40. Butter, pounds	......	......	......	.....	......	......	.....	.....	1,100	1,100
41. Wool, pounds	......	......	......	.....	......	......	75	.....	10	85
42. Beeswax and honey, pounds	......	......	......	.....	......	......	75	.....	5	80
43. Maple sugar, pounds	......	......	......	.....	......	......	2,950	.....	......	2,950

Occupations	Agriculture	Labor, not agricultural	Domestic service	Navigation	Trade, mfg. and mining	Learned professions	Government service	Army	Other occupations	Total of all occupations
43a. Occupations of free male inhabitants**	563	751	15	4	656	105	59	163	20	2,336

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*Spellings follow the Census of 1850.

†Subdivisions of counties are only partially indicated, incorporated places not being consistently distinguished, viz.: Mankahta County—Fort Gaines (Ripley) 143, Gull Lake 15; Ramsey County—Little Canada (precinct) 194, St. Anthony (precinct) 118, St. Anthony (village) 538, St. Paul (precinct) 226, St. Paul (village) 1,112, Snake River 39; Wahnahta County—Long Prairie 160; Washington County—Marion (Marine) 114, St. Croix Falls 68, St. Croix (precinct) 253, Stillwater 621.

‡These county figures from Compendium of the Seventh Census, p. 333, agree with the figures in the quarto volume of the census, p. 996, but disagree with totals for the territory on pp. 116-118 of the Compendium. The discrepancies are as follows:

	Pages 116-118 of Compendium	Page 996 of Quarto
Born in Minnesota	1,334	1,589
Born in U. S. outside Minnesota	2,673	2,511
Total native born	4,007	4,100
All others	2,070	1,977
Total	6,077	6,077

In the second column, the figures for those born in Minnesota include three marked "unknown" in the quarto, in order to make possible the assignment of native born to counties. According to p. 118 of the Compendium about three fourths (1,417) of the foreign born came from British North America.

§Contemporary writers called this an obvious error, but it may be correct as it refers only to horses on farms.

‖Either a bad guess by the enumerator or an error by addition of a cipher. The proportion of cows to other cattle reported is biologically impossible.

¶Evidently an error in the census. Either 85 or 95 bushels would be more reasonable. Ten years later Ramsey County produced only 129 bushels and the entire state only 18,988 bushels of peas and beans.

**The occupations of these 2,336 males were also reported by separate trades, the principal being: laborers, 599; farmers, 340; hunters, 207; carpenters, 188; lumbermen, 126; merchants, 87; clerks, 58; traders (fur?), 52; smiths, 49; masons, 37; lawyers, 23; teamsters, 21; voyageurs, 20.

TABLE III.—*Continued*

Manufactures[*]	Number of establishments	Capital	Cost of raw material	Hands em-ployed	Cost of labor	Volume of products
44. Gristmills	1	$2,000	$500	1	$240	$500
45. Sawmills	4	$92,000	$23,800	62	$18,300	$57,800
46. Total for territory	5	$94,000	$24,300	63	$18,540	$58,300

[*] From Abstract of Statistics of Manufactures, 1850 (Exec. Doc. 1858-59, vol. 10). These figures, which differ somewhat from those in the Compendium of the Seventh Census are used as being later—though unfortunately not given on a county basis.

TABLE IV.—Field Crops in Minnesota in 1859, According to the Census of 1860

Crops	Yield in bushels	Percentage of total
I. Cereals and legumes:		
1. Wheat	2,186,973[*]	21.622
2. Rye	121,411	1.200
3. Oats	2,176,002	21.513
4. Rice	730[†]	.007
5. Barley	119,568[*]	1.182
6. Buckwheat	28,052	.277
7. Corn	2,941,952	29.086
8. Peas and beans	18,988	.188
9. Total cereals and legumes	7,593,676	75.076
II. Root crops:		
10. Irish potatoes	2,516,485[*]	24.880
11. Sweet potatoes	792	.007
12. Total potatoes	2,517,277	24.887
III. Other field crops:		
13. Flaxseed	118	.001
14. Clover seed	351[*]	.003
15. Grass seed	3,255[*]	.033
16. Total miscellaneous crops	3,724	.037
17. Total field crops	10,114,677	100.000

[*] Corrected footing of the county figures given in the census. The totals printed in the census are: wheat, 2,186,993; barley, 109,668; potatoes, 2,565,485; clover seed, 432; and grass seed, 3,182 bushels. The county figures are here accepted, though it is of course possible that the errors are in the county figures rather than the totals of the census. At best the census of Minnesota in 1860 is a chaos of conflicting figures.

[†] 3,286 pounds reported. Equivalent to 730 bushels of 45 pounds.

TABLE V.—Acreage and Yield of the Principal Crops in Minnesota for the 1860 Growing Season[*]

Items	Acres planted	Per cent of improved land in each crop	Production (in bushels)	Per cent each crop formed of total
Improved land in crops:				
1. Wheat	230,315	42.11[†]	5,101,432	36.13
2. Corn	88,126	16.11	3,143,577	22.26
3. Oats	68,714	12.56	2,912,857	20.63
4. Potatoes	16,687	3.05	2,303,308	16.31
5. Rye	13,276	2.43	286,125	2.03
6. Barley	9,073	1.66	301,539	2.14
7. Buckwheat	3,618	.66	56,929	.40
8. Beans	694	.13	10,932	.08
9. Timothy seed	1,597	.29	2,779	.02
10. Sorghum	159	.03	....	....
11. Total for crops listed	432,259	79.03	14,119,478[‡]	100.00
12. Other improved land	114,692	20.97		
13. Total	546,951	100.00		

[*] Based on Second Report of Minnesota Commissioner of Statistics for 1860-61, pp. 54-55.

[†] Equivalent to 51.15 per cent of all tilled land.

[‡] There was also an output of 11,830 gallons of sorghum syrup.

TABLE VI.—Number of the Several Kinds of Live Stock for the State as a Whole*

	1860	1864	1865	1866	1867	1868	1869
Horses	17,065	44,002	52,053	67,119	80,132	87,894	98,980
Cattle	119,357†	206,270	202,730	200,140	230,302	247,197	275,977
Mules and asses	377	....	....	....	1,630	1,976	2,450
Sheep	13,044	97,241	161,187	193,045	182,284	153,927	135,450
Hogs	101,371‡	75,057	74,118	94,747	113,404	96,041	109,000

*Figures from census of 1860 for year 1860; from Minn. Statistics, 1869-71, page 44, for years 1864-1869.
†Corrected total to agree with the county items in the census.
‡This figure of 101,371 is given by the census of 1860 as "swine," while the figures from Minn. Statistics are for "hogs," the latter apparently excluding spring pigs.

TABLE VII.—Crops of 1868*

Crops	Acres tilled	Per cent of land tilled	Yield	Per cent of total yield of bushel crops
Wheat	858,316	61.862	15,381,022	49.191
Oats	212,064	15.284	7,831,523	25.046
Barley	18,150	1.308	518,500	1.658
Rye	2,713	.196	52,100	.167
Buckwheat	1,538	.111	25,292	.081
Total small grains	1,092,781	78.761	23,808,437	76.143
Corn	129,909	9.363	4,849,936	15.511
Beans	1,027	.074	13,371	.043
Total cereals and legumes	1,223,717	88.198	28,671,744	91.697
Flaxseed	....	....	3,345	.011
Clover seed	....	....	232	.001
Potatoes	24,475	1.764	2,592,636	8.291
Other bushel crops	....	....	....	....
Total bushel crops	....	....	31,267,957	100.000
Hay, tons	....	....	430,750	....
Flax fiber, pounds	....	....	101,237	....
Tobacco, pounds	....	....	11,293	....
Sorghum syrup, gallons	....	....	81,375	....
Maple syrup, gallons	....	....	14,105	....
Maple sugar, pounds	....	....	250,467	....
Wool, pounds	....	....	422,500	....
Butter, pounds	....	....	4,475,000	....
Cheese, pounds	....	....	166,182	....
Other products, value	....	....	$230,120	....

*Minn. Statistics, 1869, page 6.

TABLE VIII.—Yield and Value of Farm Products, 1868-69*

Products	Yield 1868	Yield 1869	Average price 1868	Average price 1869	Value 1868	Value 1869	Per cent of value 1868	Per cent of value 1869
Wheat, bushels	15,381,022	18,500,000	$0.85	$0.60	$13,073,868.70	$11,100,000.00	50.25	47.46
Oats, bushels	7,831,523	12,310,315	.50	.30	3,915,761.50	3,693,094.50	15.05	15.79
Barley, bushels	518,500	813,120	1.00	.60	518,500.00	487,872.00	1.99	2.09
Rye, bushels	52,100	50,000	.60	.45	31,260.00	22,500.00†	.12	.10
Buckwheat, bushels	25,292	28,900	.90	.90	22,762.80	26,010.00	.09	.11
Total small grains, bnshels	23,808,437	31,702,335	.....	.....	17,562,153.00	15,329,476.50	67.50	65.55
Corn, bushels	4,849,936	5,250,000	.70	.40	3,394,955.20	2,100,000.00	13.06	8.98
Beans, bushels	13,371	14,000	1.60	1.00	21,393.60†	14,000.00	.08	.06
Total cereals and legumes, bushels	31,267,957	36,966,335	.....	.....	20,978,501.80	17,443,476.50	80.64	74.59
Potatoes, bushels	2,592,636	2,934,000	$0.40	$0.55	$1,037,054.40	$1,613,700.00	3.98	6.90
Hay, tons	430,750	410,000	6.00	7.00	2,584,500.00	2,870,000.00	9.93	12.27
Wool, pounds	422,500	425,000	.25	.23	105,625.00	97,750.00	.41	.42
Butter, pounds	4,475,000	5,750,000	.20	.17	895,000.00	977,500.00	3.44	4.18
Cheese, pounds	166,182	158,000	.20	.15	33,236.40†	23,700.00†	.13	.10
Other products	....	....	.....	.....	383,368.00	360,000.00	1.47	1.54
Total values	....	....	.....	.....	$26,042,212.90	$23,386,126.50	100.00	100.00

*Minn. Statistics, 1869, pp. 48-49. For these years the Assistant Secretary of State added as arbitrary amount (five per cent for 1868 and four per cent for 1869) to the figures reported by the assessors, in order to cover assumed deficiencies in the reports.
†Corrected total for the yield given in table, p. 49, Minn. Statistics, 1869, according to price there quoted.

TABLE IX.—CROPS OF 1869 AND 1871, ACCORDING TO MINNESOTA STATISTICS FOR 1870 AND 1872

Crops	1869[*]			1871[†]		
	Acreage	Per cent of land cultivated	Yield	Acreage	Per cent of land cultivated	Yield
			Bushels			Bushels
Wheat	937,029	60.1	16,587,621	1,096,578	58.5	13,467,300
Oats	260,715	16.7	9,785,959	334,798	17.9	10,689,484
Barley	31,695	2.0	851,113	64,558	3.4	1,627,007
Rye	4,428	.3	72,281	8,061	.4	130,928
Buckwheat	2,746	.2	46,038	3,597	.2	54,152
Total, small grains	1,236,613	79.3	27,343,012	1,507,592	80.4	25,968,871
Corn	136,492	8.8	4,194,965	200,124	10.7	7,076,268
Beans	1,829	.1	27,661	1,506	.1	19,658
Total, cereals and legumes	1,374,934	88.2	31,565,638	1,709,222	91.2	33,064,797
Potatoes	19,833	1.3	1,488,428	21,429	1.1	2,153,536
All other crops	164,306	10.5	....	144,349	7.7	....
Total, all crops	1,559,073	100.0	....	1,875,000	100.0	....
Sorghum syrup, gallons	....	......	33,191	....	......	73,425
Maple sugar, pounds	....	......	205,702	....	......	141,982
Maple syrup, gallons	....	......	14,815	....	......	22,923
Honey, pounds	....	......	93,651	....	......	229,679
Hay, wild, tons	....	......	532,183	....	......	603,146
Hay, cultivated, tons	....	......	61,951	....	......	82,456
Hops, pounds	....	......	280,048	....	......	64,243
Flax fiber, pounds	....	......	15,106	....	......	235,548
Flaxseed, bushels	....	......	7,801	....	......	14,421
Timothy seed, bushels	....	......	2,279	....	......	15,823
Butter, pounds	....	......	6,552,455	....	......	7,356,768
Cheese, pounds	....	......	321,969	....	......	469,147
Wool, pounds	....	......	382,902	....	......	355,232
Value of miscellaneous garden products	....	......	$312,626	....	......	....

[*] Minn. Statistics, 1871, p. 6. For this year the Assistant Secretary of State added an arbitrary amount—four per cent to the figures reported by the assessors in order to cover assumed deficiencies in the report. The corrected figures (see p. 10) are here given.

[†] Taken from Minn. Statistics, 1872, pp. 7-9.

TABLE X—IMPROVED AND UNIMPROVED

Counties	1850			1860			1870			1880					
	Land in farms, acres	Improved land, acres	Per cent of land in farms improved	Land in farms, acres	Improved land, acres	Per cent of land in farms improved	Land in farms, acres	Improved land, acres	Per cent of land in farms improved	Area, acres	Land in farms, acres	Per cent in farms	Improved land, acres	Per cent of land area improved	Per cent of land in farms improved
1 Aitkin							307	6	2.0	1,171,200	1,848	0.2	216	*	11.7
2 Anoka				28,310	4,364	15.4	46,575	8,434	18.1	293,760	100,233	34.1	37,598	12.8	37.5
3 Becker							1,010	267	26.4	863,360	113,895	13.2	40,116	4.6	35.2
4 Beltrami										3,098,240		0.0		0.0	0.0
5 Benton	4,945	405	8.2	10,109	2,975	29.4	9,788	2,553	26.1	259,200	69,480	26.8	18,396	7.1	26.5
6 Big Stone							13	13	100.0	314,240	106,111	33.8	22,110	7.0	20.8
7 Blue Earth				70,835	12,274	17.3	279,144	102,295	36.6	487,680	363,148	74.5	269,512	55.3	74.2
8 Breckenridge															
9 Brown				39,914	4,912	12.3	138,189	33,821	24.5	391,680	198,433	50.7	140,162	35.8	70.6
10 Buchanan															
11 Carlton				640	71	11.1				554,880	13,522	2.4	2,150	0.4	15.9
12 Carver				109,003	13,119	12.0	167,983	34,047	20.3	240,640	198,493	82.5	93,134	38.7	46.9
13 Cass							224	74	33.0	2,282,880	10,706	0.5	787	*	7.4
14 Chippewa							13,055	9,524	73.0	378,240	103,828	27.5	64,077	16.9	61.7
15 Chisago				22,132	3,648	16.5	42,597	8,004	18.8	273,280	103,789	38.0	31,194	11.4	30.1
16 Clay							850	22	2.6	667,520	157,341	23.6	49,535	7.4	31.5
17 Clearwater															
18 Cook										958,720	332	*	20	*	6.0
19 Cottonwood				320	60	18.8	6,377	782	12.3	409,600	171,413	41.8	69,504	17.0	40.5
20 Crow Wing							674	380	56.4	353,280	3,937	1.1	1,372	0.4	34.8
21 Dakota				143,434	39,071	27.2	261,766	162,503	62.1	383,360	295,642	77.1	231,017	60.3	78.1
22 Dodge				78,682	15,305	19.5	151,081	74,540	49.3	281,600	226,334	80.4	193,951	68.9	85.7
23 Douglas				3,604	577	16.0	111,696	13,982	12.5	414,720	219,920	53.0	71,540	17.3	32.5
24 Faribault				15,855	4,156	26.2	240,103	68,027	28.3	460,160	312,435	67.9	225,548	49.0	72.2
25 Fillmore				291,996	75,542	25.9	399,546	185,087	46.3	555,520	495,433	89.2	361,100	65.0	72.9
26 Freeborn				60,861	7,953	13.1	225,877	69,048	30.6	470,400	349,831	74.4	256,156	54.5	73.2
27 Goodhue				128,412	27,317	21.3	349,376	217,028	62.1	490,880	428,165	87.2	348,269	70.9	81.3
28 Grant							10,917	864	7.9	353,920	99,547	28.1	32,567	9.2	32.7
29 Hennepin				160,701	30,365	18.9	199,543	64,704	32.4	361,600	256,722	71.0	142,719	39.5	55.6
30 Houston				92,272	20,126	21.9	160,659	67,824	42.2	364,800	283,976	77.8	145,530	39.9	51.2
31 Hubbard															
32 Isanti				4,289	559	13.0	50,480	7,614	15.1	282,880	93,903	33.2	26,043	9.2	27.7
33 Itasca	100	100	100.0							3,757,440		0.0		0.0	0.0
34 Jackson				800	130	16.3	32,940	5,391	16.4	449,280	116,528	25.9	60,462	13.5	51.9
35 Kanabec				1,015	145	14.3	120	50	41.7	341,760	8,680	2.5	837	0.2	9.6
36 Kandiyohi				902	109	12.1	31,849	6,199	19.5	512,640	235,470	45.9	157,847	30.8	67.0
37 Kittson										1,779,840	23,868	1.3	2,144	0.1	9.0
38 Koochiching															
39 Lac qui Parle							268	268	100.0	505,600	207,660	41.1	56,712	11.2	27.3
40 Lake							633	111	17.5	1,343,360	2,146	0.2	273	*	12.7
41 Le Sueur				127,128	14,271	11.2	175,817	37,245	21.2	298,240	222,109	74.5	110,373	37.0	49.7
42 Lincoln										342,400	122,560	35.8	24,071	7.0	19.6
43 Lyon										453,120	181,897	40.1	69,955	15.4	38.5
44 McLeod				25,234	3,385	13.4	138,020	21,447	15.5	317,440	216,081	68.1	139,354	43.9	64.5
45 Mahnomen															
46 Mankahta															
47 Manomin				2,122	867	40.9									
48 Marshall										1,144,320	46,799	4.1	5,127	0.4	11.0
49 Martin				1,266	201	15.9	112,759	19,453	17.3	460,160	154,376	33.5	55,373	12.0	35.9
50 Meeker				19,415	2,377	12.2	120,603	21,538	17.9	397,440	219,737	55.3	128,277	32.3	58.4
51 Mille Lacs				1,303	86	6.6	14,435	1,784	12.4	373,120	19,324	5.2	6,696	1.8	34.7
52 Monongalia				2,355	497	21.1	84,727	17,376	20.5						
53 Morrison				8,135	2,051	25.2	17,207	3,497	20.3	731,520	125,171	17.1	35,835	4.9	28.6
54 Mower				36,351	7,964	21.9	160,266	65,522	40.9	455,040	344,781	75.8	275,528	60.6	79.9
55 Murray				480	40	8.3	2,407	413	17.2	450,560	111,445	24.7	30,141	6.7	27.6
56 Nicollet				65,639	9,753	14.9	134,006	50,828	37.9	283,520	218,794	77.2	178,610	63.0	81.6
57 Nobles										462,080	141,847	30.7	67,745	14.7	47.8
58 Norman															
59 Olmsted				182,486	51,138	28.0	335,701	202,008	60.2	426,240	387,236	90.8	322,414	75.6	83.3
60 Otter Tail				2,424	306	12.6	32,530	3,632	11.2	1,304,960	472,159	36.2	131,804	10.1	27.9
61 Pembina	2,145	77	3.6												
62 Pennington															
63 Pierce															
64 Pine				997	110	11.0	170	45	26.5	904,320	6,129	0.7	1,400	0.2	22.8
65 Pipestone										300,160	90,007	30.0	21,861	7.3	24.3
66 Polk				2,140	440	20.6				2,848,000	377,657	13.3	122,563	4.3	32.5
67 Pope							92,745	12,646	13.6	443,520	171,999	38.8	79,822	18.0	46.4
68 Ramsey	3,290	458	13.9	17,840	5,219	29.3	24,017	10,224	42.6	103,040	42,336	41.1	24,853	24.1	58.7
69 Red Lake															
70 Redwood							4,655	1,074	23.1	563,840	177,692	31.5	65,242	11.6	36.7
71 Renville				7,728	555	7.2	74,802	9,728	13.0	625,920	231,407	37.0	95,315	15.2	41.2
72 Rice				136,344	48,810	35.8	207,416	94,475	45.5	316,800	276,120	87.2	188,103	59.4	68.1
73 Rock							3,093	463	15.0	314,880	156,152	49.6	76,073	24.2	48.7
74 Roseau															
75 Saint Louis				2,505	335	13.4				4,161,920	12,960	0.3	3,403	0.1	26.3
76 Scott				80,626	14,535	18.0	153,398	46,566	30.4	234,240	193,032	82.4	108,597	46.4	56.3
77 Sherburne				22,927	7,823	34.1	49,163	7,877	16.0	286,720	90,354	31.5	39,205	13.7	43.4

LAND BY COUNTIES, 1850-1910

1890						1900						1910						
Area, acres	Land in farms, acres	Per cent in farms	Improved land, acres	Per cent of land area improved	Per cent of land in farms improved	Area, acres	Land in farms, acres	Per cent in farms	Improved land, acres	Per cent of land area improved	Per cent of land in farms improved	Area, acres	Land in farms, acres	Per cent in farms	Improved land, acres	Per cent of land area improved	Per cent of land in farms improved	Counties
1,171,200	24,178	2.1	2,689	0.2	11.1	1,171,200	112,712	9.6	20,707	1.8	18.4	1,171,200	175,796	15.0	34,750	3.0	19.8	1
293,760	174,171	59.3	41,326	14.1	23.7	293,760	174,698	59.5	87,072	29.6	49.8	293,760	203,097	69.1	101,575	34.9	50.0	2
863,360	198,393	23.0	71,239	8.3	35.9	863,360	304,968	35.3	144,459	16.7	47.4	863,360	354,995	41.1	178,892	20.7	50.4	3
3,098,240	8,779	0.3	129	*	1.5	3,098,240	186,716	6.0	23,622	0.8	12.7	2,446,080	223,764	9.1	33,253	1.4	14.9	4
259,200	110,168	42.5	49,237	19.0	44.7	259,200	180,017	69.5	90,595	35.0	50.3	259,200	195,187	75.3	108,847	41.2	55.8	5
314,240	173,990	55.4	102,653	32.7	59.0	314,240	276,968	88.1	243,724	77.6	88.0	314,240	282,959	90.0	242,737	77.6	85.8	6
487,680	406,523	83.4	350,954	72.0	86.3	487,680	450,612	92.4	364,138	74.7	80.8	487,680	448,885	92.0	358,895	73.6	80.0	7
																		8
391,680	297,683	76.0	240,613	61.4	80.8	391,680	372,680	95.1	313,492	80.0	84.1	391,680	365,311	93.3	307,678	78.6	84.2	9
																		10
554,880	14,665	2.6	2,334	0.4	15.9	554,880	67,092	12.1	13,554	2.4	20.2	554,880	120,505	21.7	27,518	5.0	22.8	11
240,640	208,380	86.6	99,221	41.2	47.6	240,640	216,868	90.1	121,224	50.4	55.9	240,640	216,391	89.9	128,452	53.4	59.4	12
1,946,240	14,551	0.7	2,839	0.1	19.5	1,346,560	104,577	7.8	20,585	1.5	19.7	1,346,560	147,081	10.9	40,262	3.0	27.4	13
378,240	215,580	57.0	129,658	34.3	60.1	378,240	342,301	90.5	308,700	81.6	90.2	378,240	341,736	90.3	299,887	79.3	87.8	14
273,280	145,125	53.1	43,476	15.9	30.0	273,280	214,778	78.6	85,277	31.2	39.7	273,280	225,773	82.6	104,670	38.3	46.4	15
667,520	281,869	42.2	161,147	24.1	57.2	667,520	546,636	81.9	438,802	65.7	80.3	667,520	531,422	79.6	435,848	65.3	82.0	16
												652,160	174,616	26.8	40,545	6.2	23.2	17
958,720	1,196	0.1	35	*	2.9	958,720	5,523	0.6	327	*	5.9	958,720	23,769	2.5	1,568	0.2	6.6	18
409,600	208,078	50.8	124,371	30.4	59.8	409,600	370,715	90.5	341,627	83.4	92.2	409,600	371,496	90.7	338,668	82.7	91.2	19
353,280	90,286	25.6	13,202	3.7	14.6	676,480	170,509	25.2	36,179	5.3	21.2	676,480	168,771	24.9	51,989	7.7	30.8	20
383,360	291,786	76.1	237,029	61.8	81.2	383,360	332,298	86.7	272,490	71.1	82.0	383,360	329,801	86.0	259,793	67.8	78.8	21
281,600	221,878	78.8	191,855	68.1	86.5	281,600	258,979	92.0	219,508	78.0	84.8	281,600	261,863	93.0	226,580	80.5	86.5	22
414,720	306,836	74.0	118,590	28.6	38.6	414,720	348,302	84.0	192,084	46.3	55.1	414,720	354,379	85.4	219,729	53.0	62.0	23
460,160	370,849	80.6	316,354	68.7	85.3	460,160	442,042	96.1	394,000	85.6	89.1	460,160	433,481	94.2	384,265	83.5	88.6	24
555,520	474,753	85.5	357,083	64.3	75.2	555,520	521,261	93.8	389,386	70.1	74.7	555,520	518,814	93.4	391,336	70.4	75.4	25
470,400	368,302	78.3	274,472	58.3	74.5	470,400	436,748	92.8	342,876	72.9	78.5	470,400	413,711	87.9	328,677	69.9	79.4	26
490,880	446,723	91.0	363,037	74.0	81.3	490,880	470,062	95.8	374,593	76.3	79.7	490,880	462,052	94.1	359,998	73.3	77.9	27
353,920	204,052	57.7	116,845	33.0	57.3	353,920	284,039	80.3	221,610	62.6	78.0	353,920	296,484	83.8	257,382	72.7	86.8	28
361,600	253,353	70.1	141,907	39.2	56.0	361,600	297,052	82.1	197,570	54.6	66.5	361,600	284,378	78.6	189,721	52.5	66.7	29
364,800	280,513	76.9	155,698	42.7	55.5	364,800	331,986	91.0	169,810	46.5	51.1	364,800	327,094	89.7	174,020	47.7	53.2	30
336,640	34,999	10.4	16,706	5.0	47.7	613,120	99,143	16.2	29,509	4.8	29.8	613,120	151,984	24.8	55,699	9.0	36.6	31
282,880	146,770	51.9	38,396	13.6	26.2	282,880	221,576	78.3	85,747	30.3	38.7	282,880	237,642	84.0	109,642	38.7	46.1	32
3,757,440	2,327	0.1	426	*	18.3	3,757,440	27,641	0.7	4,274	0.1	15.5	1,747,200	108,380	6.2	13,636	0.9	12.6	33
449,280	215,172	47.9	121,682	27.1	56.6	449,280	404,014	89.9	354,253	78.8	87.7	449,280	411,339	91.6	354,715	79.0	86.2	34
341,760	20,450	6.0	3,369	1.0	16.5	341,760	127,475	37.3	13,832	0.4	10.9	341,760	116,370	34.1	37,370	10.9	32.1	35
512,640	310,656	60.6	213,356	41.6	68.7	512,640	443,146	86.4	340,722	66.5	76.9	512,640	463,345	90.4	369,603	72.0	79.8	36
1,779,840	231,330	13.0	117,319	6.6	50.7	711,040	339,677	47.8	205,544	28.9	60.5	711,040	372,066	52.3	287,389	40.4	77.2	37
												2,010,240	73,245	3.6	5,529	0.3	7.5	38
505,600	319,876	63.3	210,259	41.6	65.7	505,600	454,705	89.9	391,711	77.5	86.1	505,600	464,102	91.8	403,125	79.7	86.9	39
1,343,360	1,176	0.1	262	*	22.3	1,343,360	2,435	0.2	243	*	10.0	1,343,360	22,279	1.7	2,381	0.2	10.7	40
298,240	272,821	91.5	135,821	45.5	49.8	298,240	288,609	96.8	148,939	49.9	51.6	298,240	261,945	87.8	163,117	54.7	62.3	41
342,400	179,180	52.3	102,239	29.9	57.1	342,400	300,274	87.7	237,636	69.4	79.1	342,400	306,129	89.4	249,332	72.8	81.4	42
453,120	253,083	55.9	141,335	31.2	55.8	453,120	398,432	87.9	334,236	73.8	83.9	453,120	401,546	88.6	344,172	76.0	85.7	43
317,440	271,348	85.5	199,260	62.8	73.4	317,440	302,091	95.2	223,943	70.5	74.1	317,440	298,961	94.2	239,925	75.6	80.3	44
												366,080	41,995	11.5	24,123	6.6	57.4	45
																		46
																		47
1,144,320	327,400	28.6	156,377	13.7	47.8	1,144,320	543,190	47.5	340,882	29.8	62.8	1,144,320	567,865	49.6	380,677	33.3	67.0	48
460,160	259,703	56.4	148,522	32.3	57.2	460,160	420,792	91.4	383,459	83.3	91.1	460,160	427,727	93.0	376,804	81.9	88.1	49
397,440	301,603	75.9	153,839	38.7	51.0	397,440	345,982	87.1	258,314	65.0	74.7	397,440	358,423	90.2	270,542	68.1	75.5	50
373,120	30,111	8.1	10,926	2.9	36.3	373,120	95,660	25.6	31,406	8.4	32.8	373,120	123,647	33.1	48,438	13.0	39.2	51
																		52
731,520	209,358	28.6	68,483	9.4	32.7	731,520	331,816	45.4	148,355	20.3	44.7	731,520	374,728	51.2	184,150	25.2	49.1	53
455,040	367,059	80.7	281,486	61.9	76.7	455,040	432,906	95.1	394,801	86.8	91.2	455,040	428,428	94.1	391,592	86.1	91.4	54
450,560	186,586	41.4	114,307	25.4	61.3	450,560	385,061	85.5	338,656	75.2	87.9	450,560	401,048	89.0	355,643	78.9	88.7	55
283,520	258,333	91.1	201,988	71.2	78.2	283,520	272,290	96.0	209,259	73.8	76.9	283,520	262,212	92.5	189,677	66.9	72.3	56
462,080	232,194	50.2	159,206	34.5	68.6	462,080	420,213	90.9	298,238	64.5	71.0	462,080	418,200	90.5	388,156	84.0	92.8	57
916,480	323,191	35.3	182,628	19.9	56.5	916,480	428,985	46.0	316,597	34.5	73.8	550,400	418,534	76.0	314,778	57.2	75.2	58
426,240	368,552	86.5	311,257	73.0	84.5	426,240	405,889	95.2	327,419	76.8	80.7	426,240	393,620	92.3	316,184	74.2	80.3	59
1,304,960	716,555	54.9	311,175	23.8	43.4	1,304,960	944,732	72.4	505,358	38.7	53.5	1,304,960	996,535	76.4	592,598	45.4	59.5	60
																		61
												388,480	257,485	66.3	136,735	35.2	53.1	62
																		63
904,320	30,853	3.4	4,783	0.5	15.5	904,320	148,459	16.4	30,637	3.4	20.6	904,320	230,689	25.5	64,768	7.2	28.1	64
300,160	120,610	40.2	87,943	29.3	72.9	300,160	241,623	80.5	208,280	69.4	86.2	300,160	267,989	89.3	250,466	83.4	93.5	65
1,931,520	889,811	46.1	423,514	21.9	47.6	1,266,560	973,281	76.8	651,755	51.5	67.0	1,266.560	888,852	70.2	643,946	50.8	72.4	66
443,520	295,087	66.5	159,225	35.9	54.0	443,520	378,812	85.4	286,540	64.6	75.7	443,520	373,294	84.2	286,395	64.6	76.7	67
103,040	42,960	41.7	23,045	22.4	53.6	103,040	60,783	59.0	38,967	37.8	64.1	103,040	60,543	58.8	41,194	40.0	68.0	68
						664,960	258,367	38.9	146,274	22.0	56.6	276,480	125,402	45.4	77,138	27.9	61.5	69
563,840	259,706	46.1	148,289	26.3	57.1	563,840	508,599	90.2	417,937	74.1	82.2	563,840	527,471	93.5	438,745	77.8	83.2	70
625,920	446,665	71.4	229,827	36.7	51.5	625,920	584,659	93.4	500,199	79.9	85.6	625,920	589,798	94.2	513,520	82.4	87.1	71
316,800	276,192	87.2	220,064	69.5	79.7	316,800	305,513	96.4	227,779	71.9	74.6	316,800	297,944	94.0	229,381	72.1	77.0	72
314,880	201,484	64.0	142,636	45.3	70.8	314,880	288,397	91.6	267,427	84.9	92.7	314,880	288,351	91.6	270,719	86.0	93.9	73
						1,068,800	236,681	22.1	74,336	7.0	31.4	1,068,800	315,106	29.5	157,332	14.7	49.9	74
4,161,920	35,239	0.8	4,869	0.1	13.8	4,161,920	59,950	1.4	11,406	0.3	19.0	4,161,920	272,995	6.6	41,111	0.1	15.1	75
234,240	193,764	82.7	124,923	53.3	64.5	234,240	214,254	91.5	123,320	52.6	57.6	234,240	207,884	88.7	133,661	57.1	64.3	76
286,720	129,308	45.1	61,737	21.5	47.7	286,720	179,105	62.5	98,539	34.4	55.0	286,720	204,537	71.3	110,927	38.7	54.2	77

TABLE X—Improved and Unimproved

Counties	1850			1860			1870			1880					
	Land in farms, acres	Improved land, acres	Per cent of land in farms improved	Land in farms, acres	Improved land, acres	Per cent of land in farms improved	Land in farms, acres	Improved land, acres	Per cent of land in farms improved	Area, acres	Land in farms, acres	Per cent in farms	Improved land, acres	Per cent of land area improved	Per cent of land in farms improved
78 Sibley				86,012	7,767	9.0	151,721	31,275	20.6	374,400	212,307	56.7	123,965	33.1	58.4
79 Stearns				115,908	17,580	15.2	341,019	55,182	16.2	871,680	453,862	52.1	186,651	21.4	41.1
80 Steele				57,911	9,509	16.4	118,377	47,738	40.3	275,840	243,362	88.2	193,001	70.0	79.3
81 Stevens							7,131	745	10.4	360,960	153,742	42.6	65,093	18.0	42.3
82 Swift										474,240	222,316	46.9	80,783	17.0	36.3
83 Todd				13,412	777	5.8	31,614	3,762	11.9	612,480	145,720	23.8	47,496	7.8	32.6
84 Toombs															
85 Traverse							320	20	6.3	363,520	99,495	27.4	16,240	4.5	16.3
86 Wabasha	999	439	43.9	129,834	24,055	18.5	275,294	136,500	49.6	346,240	302,866	87.5	214,163	61.9	70.7
87 Wadena							136	6	4.4	344,320	38,726	11.2	8,310	2.4	21.5
88 Wahnahta	1,142	642	56.2												
89 Waseca				31,674	5,525	17.4	145,726	49,259	33.8	275,840	223,736	81.1	177,388	64.3	79.3
90 Washington	16,260	2,914	17.9	59,222	18,611	31.4	104,902	48,471	46.2	254,080	169,748	66.8	104,257	41.0	61.4
91 Watonwan							54,218	16,720	30.8	277,760	89,476	32.2	60,795	21.9	67.9
92 Wilkin							9,042	906	10.0	476,800	95,803	20.1	19,886	4.2	20.8
93 Winona				113,416	28,798	25.4	271,455	136,584	50.3	407,680	335,160	82.2	219,681	53.9	65.5
94 Wright				95,048	10,087	10.6	101,296	23,631	23.3	442,240	254,910	57.6	99,489	22.5	39.0
95 Yellow Medicine										479,360	178,860	37.3	69,157	14.4	38.7
96 Indian Reservations															
Totals for the State	28,881	5,035	17.4	2,711,968	556,250	20.5	6,483,828	2,322,102	35.8	51,749,120	13,403,019	25.9	7,246,693	14.0	54.1

* Less than ⅒ of 1 per cent.

TABLE XI—Population in Minnesota

Counties	1850			1860				1870				1880			
	Country	Villages under 2,500	Total	Country	Villages under 2,500	Cities and villages over 2,500	Total	Country	Villages under 2,500	Cities and villages over 2,500	Total	Country	Villages under 2,500	Cities and villages over 2,500	Total
1 Aitkin				2			2	178			178	366			366
% of increase								*8800.0%*				*105.6%*			
2 Anoka				1,504	602		2,106	2,442	1,498		3,940	4,402		2,706	7,108
% of increase								*62.4%*				*80.3%*			
3 Becker				386			386	308			308	4,441	777		5,218
% of increase								*—20.2%*				*1341.9%*			
4 Beltrami								80			80	10			10
% of increase												*—87.5%*			
5 Benton	418		418	460	167		627	1,124	434		1,558	2,414	598		3,012
% of increase				*10.0%*				*143.9%*				*114.8%*			
6 Big Stone								24			24	3,648	40		3,688
% of increase												*15100.0%*			
7 Blue Earth				3,244	1,559		4,803	12,596	1,224	3,482	17,302	16,505	834	5,550	22,889
% of increase								*288.3%*				*31.0%*			
8 Breckenridge				79			79								
% of increase															
9 Brown				1,704	635		2,339	5,086	1,310		6,396	8,383	3,635		12,018
% of increase								*198.5%*				*64.8%*			
10 Buchanan				26			26								
% of increase															
11 Carlton				51			51	286			286	512	718		1,230
% of increase								*460.8%*				*79.0%*			
12 Carver				3,830	1,276		5,106	10,739	847		11,586	11,427	2,713		14,140
% of increase								*180.4%*				*6.4%*			
13 Cass				150			150	380			380	486			486
% of increase								*152.0%*				*27.9%*			
14 Chippewa								1,467			1,467	4,546	862		5,408
% of increase												*210.0%*			
15 Chisago				1,290	453		1,743	4,358			4,358	6,395	1,587		7,982
% of increase								*237.8%*				*46.7%*			
16 Clay								92			92	5,887			5,887
% of increase												*6298.9%*			
17 Clearwater															
% of increase															
18 Cook												65			65
% of increase															
19 Cottonwood				12			12	534			534	5,090	443		5,533
% of increase								*4350.0%*				*853.2%*			

LAND BY COUNTIES, 1850-1910—*Continued*

1890						1900						1910						
Area, acres	Land in farms, acres	Per cent in farms	Improved land, acres	Per cent of land area improved	Per cent of land in farms improved	Area, acres	Land in farms, acres	Per cent in farms	Improved land, acres	Per cent of land area improved	Per cent of land in farms improved	Area, acres	Land in farms, acres	Per cent in farms	Improved land, acres	Per cent of land area improved	Per cent of land in farms improved	Counties
374,400	325,924	87.1	230,002	61.4	70.6	374,400	357,846	95.6	277,643	74.2	77.6	374,400	357,265	95.4	283,904	75.8	79.5	78
871,680	602,668	69.1	250,229	28.7	41.5	871,680	731,323	83.9	420,428	48.2	57.5	871,680	761,242	87.3	452,316	51.9	59.4	79
275,840	236,988	85.9	213,027	77.2	89.9	275,840	263,371	95.5	226,873	82.2	86.1	275,840	262,555	95.2	225,399	81.7	85.8	80
360,960	184,035	51.0	90,577	25.1	49.2	360,960	312,081	86.5	250,151	69.3	80.2	360,960	304,926	84.5	264,518	73.3	86.7	81
474,240	265,028	55.9	128,911	27.2	48.6	474,240	414,950	87.5	343,863	72.5	82.9	474,240	408,661	86.2	362,277	76.4	88.6	82
612,480	225,059	36.7	69,833	11.4	31.0	612,480	365,988	59.8	151,002	24.7	41.3	612,480	424,221	69.3	201,083	32.8	47.4	83
																		84
363,520	190,884	52.5	99,759	27.4	52.3	363,520	321,708	88.5	266,563	73.4	82.9	363,520	317,557	87.4	304,208	83.7	95.8	85
346,240	292,619	84.5	217,459	62.8	74.3	346,240	324,531	93.7	227,689	65.8	70.2	346,240	320,894	92.7	229,613	66.3	71.6	86
344,320	63,675	18.5	25,687	7.5	40.3	344,320	141,375	41.1	61,284	17.8	43.3	344,320	158,666	46.1	69,703	20.2	43.9	87
																		88
275,840	238,233	86.4	200,890	72.8	84.3	275,840	262,467	95.2	225,134	81.6	85.8	275,840	256,347	92.9	206,512	74.9	80.6	89
254,080	186,215	73.3	118,685	46.7	63.7	254,080	214,858	84.6	145,851	57.4	67.9	254,080	226,312	89.1	152,745	60.1	67.5	90
277,760	190,795	68.7	130,148	46.9	68.2	277,760	255,815	92.1	219,558	79.0	85.8	277,760	251,664	90.6	225,847	81.3	89.7	91
476,800	154,240	32.3	84,648	17.8	54.9	476,800	318,998	66.9	267,764	56.2	83.9	476,800	335,986	70.5	318,237	66.7	94.7	92
407,680	338,123	82.9	220,002	54.0	65.1	407,680	371,659	91.2	230,698	56.6	62.1	407,680	374,234	91.8	237,674	58.3	63.5	93
442,240	324,564	73.4	127,255	28.8	39.2	442,240	383,966	86.8	215,436	48.7	56.1	442,240	399,328	90.3	237,792	53.8	59.5	94
479,360	290,423	60.6	181,369	37.8	62.4	479,360	423,714	88.4	353,000	73.6	83.3	479,360	451,719	94.2	379,135	79.1	83.9	95
							87,492		24,908		28.5							96
51,749,120	18,663,645	36.1	11,127,953	21.5	59.6	51,749,120	26,248,498	50.7	18,342,585	35.4	69.9	51,749,120	27,675,823	53.5	19,643,533	38.0	71.0	

BY COUNTIES, 1850-1910

1890				1900				1910				
Country	Villages under 2,500	Cities and villages over 2,500	Total	Country	Villages under 2,500	Cities and villages over 2,500	Total	Country	Villages under 2,500	Cities and villages over 2,500	Total	Counties
1,725 *371.3%*	737		2,462	5,024 *191.2%*	1,719		6,743	8,387 *66.9%*	1,984		10,371	1
5,632 *27.9%*		4,252	9,884	7,421 *31.8%*	123	3,769	11,313	7,710 *3.9%*	811	3,972	12,493	2
7,383 *68.2%*	2,018		9,401	10,396 *40.8%*	3,979		14,375	12,901 *24.1%*	3,132	2,807	18,840	3
312 *3020.0%*			312	8,250 *2544.2%*	2,780		11,030	9,671 *17.2%*	4,567	5,099	19,337	4
4,306 *78.4%*	1,185	793	6,284	7,048 *63.7%*	1,951	913	9,912	7,586 *7.6%*	2,849	1,180	11,615	5
4,446 *21.9%*	1,276		5,722	5,685 *27.9%*	3,046		8,731	5,165 *—9.2%*	4,202		9,367	6
18,726 *13.5%*	1,646	8,838	29,210	17,893 *—4.5%*	3,771	10,599	32,263	15,076 *—15.7%*	3,896	10,365	29,337	7
												8
9,847 *17.5%*	2,229	3,741	15,817	10,827 *10.0%*	3,557	5,403	19,787	10,010 *—7.6%*	4,476	5,648	20,134	9
												10
1,544 *201.6%*	1,198	2,530	5,272	5,544 *259.1%*	1,401	3,072	10,017	8,259 *49.0%*	2,269	7,031	17,559	11
11,990 *4.9%*	4,542		16,532	12,159 *1.4%*	5,385		17,544	11,607 *—4.5%*	5,848		17,455	12
808 *66.3%*	439		1,247	6,693 *728.3%*	1,084		7,777	7,700 *15.0%*	3,920		11,620	13
7,118 *56.6%*	1,437		8,555	8,814 *23.8%*	3,685		12,499	8,434 *—4.3%*	1,968	3,056	13,458	14
7,644 *19.5%*	2,715		10,359	9,420 *23.2%*	3,828		13,248	9,547 *1.3%*	3,990		13,537	15
7,815 *32.8%*	3,702		11,517	11,783 *47.4%*	2,429	3,730	17,942	11,583 *—1.7%*	3,217	4,840	19,640	16
								5,819	1,051		6,870	17
98 *50.8%*			98	810 *726.5%*			810	981 *21.1%*	355		1,336	18
6,254 *22.9%*	1,158		7,412	8,855 *41.6%*	3,214		12,069	8,880 *0.3%*	3,771		12,651	19

TABLE XI—POPULATION IN MINNESOTA

	1850			1860				1870				1880			
COUNTIES	Country	Villages under 2,500	Total	Country	Villages under 2,500	Cities and villages over 2,500	Total	Country	Villages under 2,500	Cities and villages over 2,500	Total	Country	Villages under 2,500	Cities and villages over 2,500	Total
20 Crow Wing				269			269	200			200	454	1,865		2,319
% of increase								*−25.7%*				*127.0%*			
21 Dakota	584		584	6,364	2,729		9,093	11,751	1,103	3,458	16,312	12,506	1,076	3,809	17,391
% of increase				*989.7%*				*84.6%*				*6.4%*			
22 Dodge				3,037	760		3,797	7,086	1,512		8,598	8,818	2,526		11,344
% of increase								*133.3%*				*24.4%*			
23 Douglas				195			195	4,239			4,239	7,523	1,607		9,130
% of increase								*2073.8%*				*77.5%*			
24 Faribault				780	555		1,335	9,267	673		9,940	9,769	3,247		13,016
% of increase								*1088.1%*				*5.4%*			
25 Fillmore				10,264	3,278		13,542	20,726	4,161		24,887	22,495	5,667		28,162
% of increase								*101.9%*				*8.5%*			
26 Freeborn				3,105	262		3,367	9,411	1,167		10,578	13,796	2,273		16,069
% of increase								*203.1%*				*46.6%*			
27 Goodhue				7,495	1,482		8,977	18,358		4,260	22,618	21,380	2,395	5,876	29,651
% of increase								*144.9%*				*16.5%*			
28 Grant								340			340	2,820	184		3,004
% of increase												*729.4%*			
29 Hennepin				6,710	317	5,822	12,849	13,487		18,079	31,566	19,503	623	46,887	67,013
% of increase								*101.0%*				*44.6%*			
30 Houston				5,299	1,346		6,645	12,886	2,050		14,936	13,360	2,972		16,332
% of increase								*143.2%*				*3.7%*			
31 Hubbard															
% of increase															
32 Isanti				284			284	2,035			2,035	4,927	136		5,063
% of increase								*616.5%*				*142.1%*			
33 Itasca	97		97	51			51	96			96	124			124
% of increase				*−47.4%*				*88.2%*				*29.2%*			
34 Jackson				181			181	1,825			1,825	4,305	501		4,806
% of increase								*908.3%*				*135.9%*			
35 Kanabec				30			30		93		93	505			505
% of increase															
36 Kandiyohi				76			76	1,760			1,760	8,855	1,304		10,159
% of increase								*2215.8%*				*403.1%*			
37 Kittson												905			905
% of increase															
38 Koochiching															
% of increase															
39 Lac qui Parle								145			145	4,891			4,891
% of increase												*3273.1%*			
40 Lake				248			248	135			135	106			106
% of increase								*−45.6%*				*−21.5%*			
41 Le Sueur				4,616	702		5,318	10,598	1,009		11,607	13,041	3,062		16,103
% of increase								*129.6%*				*23.1%*			
42 Lincoln												2,945			2,945
% of increase															
43 Lyon												4,861	1,396		6,257
% of increase															
44 McLeod				955	331		1,286	5,203	440		5,643	10,684	1,658		12,342
% of increase								*444.8%*				*105.3%*			
45 Mahnomen															
% of increase															
46 Mankahta	158		158												
% of increase															
47 Manomin				136			136								
% of increase															
48 Marshall												992			992
% of increase															
49 Martin				151			151	3,867			3,867	4,577	672		5,249
% of increase								*2460.9%*				*18.4%*			
50 Meeker				928			928	5,416	674		6,090	9,898	1,841		11,739
% of increase								*483.6%*				*82.8%*			
51 Mille Lacs				73			73	1,109			1,109	914	587		1,501
% of increase								*1419.2%*				*−17.6%*			
52 Monongalia				350			350	3,161			3,161				
% of increase								*803.1%*							
53 Morrison				344	274		618	1,681			1,681	5,367	508		5,875
% of increase								*388.7%*				*219.3%*			
54 Mower				2,390	827		3,217	8,408	2,039		10,447	12,733	4,066		16,799
% of increase								*251.8%*				*51.4%*			
55 Murray				29			29	209			209	3,604			3,604
% of increase								*620.7%*				*1624.4%*			
56 Nicollet				3,473	300		3,773	6,238	2,124		8,362	8,897		3,436	12,333
% of increase								*79.6%*				*42.6%*			
57 Nobles				35			35	117			117	3,799	636		4,435
% of increase								*234.3%*				*3147.0%*			
58 Norman															
% of increase															

BY COUNTIES, 1850-1910—*Continued*

1890				1900				1910				
Country	Villages under 2,500	Cities and villages over 2,500	Total	Country	Villages under 2,500	Cities and villages over 2,500	Total	Country	Villages under 2,500	Cities and villages over 2,500	Total	Counties
3,149 *598.6%*		5,703	8,852	6,726 *113.6%*		7,524	14,250	7,359 *9.4%*	976	8,526	16,861	20
11,207 *—10.4%*	5,328	3,705	20,240	11,778 *5.1%*	6,144	3,811	21,733	11,249 *—4.5%*	2,769	11,153	25,171	21
8,779 *—0.5%*	2,085		10,864	9,293 *—5.9%*	4,047		13,340	8,350 *—10.2%*	3,744		12,094	22
11,339 *50.7%*	3,267		14,606	13,506 *19.1%*	1,777	2,681	17,964	12,135 *—10.2%*	2,533	3,001	17,669	23
11,563 *18.4%*	5,145		16,708	13,075 *13.1%*	6,080	2,900	22,055	11,684 *—10.6%*	8,265		19,949	24
20,521 *—8.8%*	5,445		25,966	19,742 *—3.8%*	8,496		28,238	16,398 *—16.9%*	9,282		25,680	25
14,292 *3.6%*	365	3,305	17,962	15,637 *9.4%*	1,701	4,500	21,838	14,588 *—6.7%*	1,502	6,192	22,282	26
19,353 *—9.5%*	3,159	6,294	28,806	18,979 *—1.9%*	4,633	7,525	31,137	17,403 *—8.3%*	5,186	9,048	31,637	27
6,055 *114.7%*	820		6,875	6,974 *15.2%*	1,961		8,935	6,379 *—8.5%*	2,735		9,114	28
15,823 *—18.9%*	4,733	164,738	185,294	19,171 *21.2%*	6,451	202,718	228,340	18,696 *—2.5%*	7,681	307,103	333,480	29
11,767 *—11.9%*	2,886		14,653	12,203 *3.7%*	3,197		15,400	10,472 *—14.2%*	3,825		14,297	30
1,412			1,412	5,036 *256.7%*	1,542		6,578	7,460 *48.1%*	2,371		9,831	31
7,349 *49.2%*	258		7,607	10,938 *48.8%*	737		11,675	10,993 *0.5%*	1,622		12,615	32
743 *499.2%*			743	2,799 *276.7%*	1,774		4,573	5,808 *107.5%*	11,400		17,208	33
7,433 *72.7%*	1,491		8,924	10,864 *46.2%*	3,929		14,793	10,539 *—3.0%*	3,952		14,491	34
1,579 *212.7%*			1,579	3,829 *142.5%*	785		4,614	5,110 *33.5%*	1,351		6,461	35
11,532 *30.2%*	2,465		13,997	13,774 *19.4%*	1,233	3,409	18,416	12,880 *—6.5%*	1,954	4,135	18,969	36
5,085 *461.9%*	302		5,387	6,670 *31.2%*	1,219		7,889	7,624 *14.3%*	2,045		9,669	37
								3,945	2,486		6,431	38
9,173 *87.5%*	1,209		10,382	10,942 *19.3%*	3,347		14,289	10,819 *—1.1%*	4,616		15,435	39
1,299 *1125.5%*			1,299	1,376 *5.9%*		3,278	4,654	2,530 *83.9%*	491	4,990	8,011	40
13,568 *4.0%*	5,489		19,057	13,229 *—2.5%*	7,005		20,234	11,357 *—14.2%*	7,252		18,609	41
5,041 *71.2%*	650		5,691	7,561 *50.0%*	1,405		8,966	7,429 *—1.8%*	2,445		9,874	42
6.573 *35.2%*	2,928		9,501	8,938 *36.0%*	5,653		14,591	9,064 *1.4%*	6,658		15,722	43
12,827 *20.1%*	4,199		17,026	13,207 *3.0%*	6,388		19,595	12,278 *—7.0%*	6,413		18,691	44
								2,223	1,026		3,249	45
												46
												47
7,911 *697.5%*	1,219		9,130	13,080 *65.3%*	2,618		15,698	12,742 *—2.6%*	3,596		16,338	48
7,742 *69.2%*	1,661		9,403	11,886 *53.5%*	2,010	3,040	16,936	11,453 *—3.6%*	3,107	2,958	17,518	49
12,329 *24.6%*	3,127		15,456	13,953 *13.2%*	3,800		17,753	12,876 *—7.7%*	4,146		17,022	50
1,338 *46.4%*	1,507		2,845	5,280 *294.6%*	2,786		8,066	7,530 *42.6%*	3,175		10,705	51
												52
9,864 *83.8%*	3,461		13,325	15,447 *56.6%*	1,670	5,774	22,891	15,433 *—0.1%*	2,542	6,078	24,053	53
12,329 *—3.7%*	1,850	3,901	18,019	13,543 *10.4%*	3,318	5,474	22,335	12,079 *—10.8%*	3,601	6,960	22,640	54
5,794 *69.8%*	898		6,692	9,446 *63.0%*	2,465		11,911	8,741 *—7.5%*	3,014		11,755	55
9,448 *6.2%*	263	3,671	13,382	9,029 *—4.4%*	1,443	4,302	14,774	7,929 *—12.2%*	2,020	4,176	14,125	56
5,865 *54.4%*	2,093		7,958	10,020 *70.8%*	4,912		14,932	9,359 *6.6%*	5,851		15,210	57
9,996	622		10,618	12,994 *30.0%*	2,051		15,045	9,988 *—23.1%*	3,458		13,446	58

TABLE XI—POPULATION IN MINNESOTA

	1850			1860				1870				1880			
COUNTIES	Country	Villages under 2,500	Total	Country	Villages under 2,500	Cities and villages over 2,500	Total	Country	Villages under 2,500	Cities and villages over 2,500	Total	Country	Villages under 2,500	Cities and villages over 2,500	Total
59 Olmsted				8,100	1,424		9,524	15,591	249	3,953	19,793	15,095	1,345	5,103	21,543
% of increase								*92.5%*				*—3.2%*			
60 Otter Tail				240			240	1,968			1,968	17,040	1,635		18,675
% of increase								*720.0%*				*765.9%*			
61 Pembina	1,134		1,134	1,612			1,612	64			64				
% of increase				*42.2%*				*—96.0%*							
62 Pennington															
% of increase															
63 Pierce				11			11								
% of increase															
64 Pine				92			92	648			648	1,365			1,365
% of increase								*604.3%*				*110.6%*			
65 Pipestone				23			23					1,870	222		2,092
% of increase															
66 Polk				240			240					9,762	1,671		11,433
% of increase															
67 Pope								2,691			2,691	5,874			5,874
% of increase												*118.3%*			
68 Ramsey	577	1,650	2,227	1,482	267	10,401	12,150	3,055		20,030	23,085	3,982	435	41,473	45,890
% of increase				*156.8%*				*106.1%*				*30.3%*			
69 Red Lake															
% of increase															
70 Redwood								1,829			1,829	4,092	1,283		5,375
% of increase												*123.7%*			
71 Renville				245			245	3,219			3,219	9,765	1,026		10,791
% of increase								*1213.9%*				*203.4%*			
72 Rice				4,731	2,812		7,543	10,333	2,705	3,045	16,083	14,181	2,885	5,415	22,481
% of increase								*118.4%*				*37.2%*			
73 Rock								138			138	2,990	679		3,669
% of increase												*2066.6%*			
74 Roseau															
% of increase															
75 Saint Louis				224	182		406	1,430		3,131	4,561	821	200	3,483	4,504
% of increase								*538.4%*				*—42.6%*			
76 Scott				3,457	1,138		4,595	9,196	1,846		11,042	9,680	3,836		13,516
% of increase								*166.0%*				*5.3%*			
77 Sherburne				490	233		723	2,050			2,050	3,220	635		3,855
% of increase								*318.4%*				*57.1%*			
78 Sibley				2,731	878		3,609	6,019	706		6,725	9,673	964		10,637
% of increase								*120.4%*				*60.7%*			
79 Stearns				4,505			4,505	12,045	2,161		14,206	18,001	3,955		21,956
% of increase								*167.4%*				*49.4%*			
80 Steele				2,254	609		2,863	6,201	2,070		8,271	8,961	338	3,161	12,460
% of increase								*175.1%*				*44.5%*			
81 Stevens								174			174	3,077	834		3,911
% of increase												*1668.4%*			
82 Swift												6,617	856		7,473
% of increase															
83 Todd				430			430	2,036			2,036	6,133			6,133
% of increase								*373.5%*				*201.2%*			
84 Toombs				40			40								
% of increase															
85 Traverse								13			13	1,507			1,507
% of increase												*11492.3%*			
86 Wabasha	243		243	5,813	1,415		7,228	11,279	4,580		15,859	11,594	4,016	2,596	18,206
% of increase				*2292.2%*				*94.0%*				*2.8%*			
87 Wadena								6			6	1,773	307		2,080
% of increase												*29450.0%*			
88 Wahnahta	160		160												
% of increase															
89 Waseca				2,341	260		2,601	6,356	1,498		7,854	9,352	3,033		12,385
% of increase								*171.5%*				*47.1%*			
90 Washington	435	621	1,056	3,743	2,380		6,123	5,987	1,698	4,124	11,809	10,048	460	9,055	19,563
% of increase				*760.5%*				*60.0%*				*67.8%*			
91 Watonwan								2,285	141		2,426	4,171	933		5,104
% of increase												*82.5%*			
92 Wilkin								295			295	1,906			1,906
% of increase												*546.1%*			
93 Winona				6,744	2,464		9,208	13,885	1,242	7,192	22,319	15,593	1,396	10,208	27,197
% of increase								*105.9%*				*12.3%*			
94 Wright				2,376	1,353		3,729	9,457			9,457	16,144	1,960		18,104
% of increase								*298.0%*				*70.7%*			
95 Yellow Medicine												4,975	909		5,884
% of increase															
Indians not distributed by counties															
Totals for the State	3,806	2,271	6,077	122,530	33,270	16,223	172,023	327,698	41,254	70,754	439,706	543,193	88,822	148,758	780,773
% of increase				*3119.4%*				*167.4%*				*65.8%*			

BY COUNTIES, 1850-1910—*Continued*

1890				1900				1910				
Country	Villages under 2,500	Cities and villages over 2,500	Total	Country	Villages under 2,500	Cities and villages over 2,500	Total	Country	Villages under 2,500	Cities and villages over 2,500	Total	Counties
13,282 *—12.0%*	1,203	5,321	19,806	14,148 *6.5%*	2,128	6,843	23,119	12,451 *—12.0%*	2,202	7,844	22,497	59
28,426 *66.8%*	2,034	3,772	34,232	35,142 *23.6%*	4,161	6,072	45,375	32,472 *—7.6%*	6,677	6,887	46,036	60
												61
								5,194	468	3,714	9,376	62
												63
2,382 *74.5%*	1,670		4,052	8,076 *239.0%*	3,470		11,546	11,081 *37.2%*	4,797		15,878	64
3,350 *79.1%*	1,782		5,132	4,827 *44.1%*	1,901	2,536	9,264	5,116 *6.0%*	4,437		9,553	65
23,821 *144.0%*	2,914	3,457	30,192	25,148 *5.6%*	4,922	5,359	35,429	22,127 *—12.0%*	3,782	10,092	36,001	66
8,978 *52.8%*	1,054		10,032	10,133 *12.9%*	2,444		12,577	9,036 *—10.8%*	3,710		12,746	67
3,830 *—3.9%*	2,810	133,156	139,796	4,741 *23.8%*	2,748	163,065	170,554	5,647 *19.1%*	3,284	214,744	223,675	68
				7,651	4,544		12,195	4,668 *—39.0%*	1,896		6,564	69
7,518 *83.7%*	1,868		9,386	12,940 *72.1%*	4,321		17,261	12,760 *—1.4%*	5,665		18,425	70
14,213 *45.6%*	2,886		17,099	17,162 *20.7%*	6,531		23,693	15,994 *—6.8%*	7,129		23,123	71
13,536 *—4.6%*	1,253	9,179	23,968	13,280 *—1.9%*	1,722	11,078	26,080	11,813 *—11.1%*	1,832	12,266	25,911	72
5,119 *71.2%*	1,698		6,817	6,712 *31.1%*	2,956		9,668	6,495 *—3.2%*	1,187	2,540	10,222	73
				6,529	465		6,994	8,846 *35.5%*	2,492		11,338	74
5,471 *566.4%*	2,908	36,483	44,862	12,442 *127.4%*	8,090	62,400	82,932	34,331 *175.9%*	12,880	116,063	163,274	75
9,471 *—2.2%*	4,360		13,831	9,540 *0.7%*	5,607		15,147	7,983 *—16.3%*	6,905		14,888	76
4,734 *47.0%*	679	495	5,908	5,641 *19.2%*	1,230	410	7,281	5,591 *—0.9%*	1,736	809	8,136	77
12,547 *29.7%*	2,652		15,199	12,731 *1.5%*	4,131		16,862	11,351 *—10.8%*	4,189		15,540	78
24,810 *37.8%*	3,636	6,398	34,844	27,418 *10.5%*	9,706	7,340	44,464	26,941 *—1.7%*	9,590	11,202	47,733	79
9,075 *1.3%*	308	3,849	13,232	10,108 *11.4%*	855	5,561	16,524	9,373 *—7.3%*	1,115	5,658	16,146	80
3,767 *22.4%*	1,484		5,251	5,899 *56.6%*	2,822		8,721	5,480 *—7.1%*	2,813		8,293	81
7,861 *18.8%*	2,300		10,161	9,831 *25.1%*	3,672		13,503	8,533 *—13.2%*	4,416		12,949	82
11,953 *94.9%*	977		12,930	17,076 *42.9%*	5,138		22,214	16,588 *—2.9%*	4,261	2,558	23,407	83
												84
3,635 *141.2%*	881		4,516	5,264 *44.8%*	2,309		7,573	5,286 *0.4%*	2,763		8,049	85
11,586 *—0.1%*	5,386		16,972	10,554 *—8.9%*	3,098	5,272	18,924	9,448 *—10.5%*	3,342	5,764	18,554	86
2,523 *42.3%*	1,530		4,053	5,093 *101.9%*	2,828		7,921	5,520 *8.4%*	3,132		8,652	87
												88
9,487 *1.4%*	3,826		13,313	9,653 *1.7%*	2,004	3,103	14,760	8,554 *—11.4%*	1,858	3,054	13,466	89
10,663 *6.1%*	4,069	11,260	25,992	12,958 *21.5%*	2,532	12,318	27,808	11,975 *—7.6%*	3,840	10,198	26,013	90
5,955 *42.8%*	1,791		7,746	7,285 *22.3%*	1,604	2,607	11,496	7,135 *—2.1%*	4,247		11,382	91
3,517 *84.5%*	829		4,346	6,263 *78.1%*	1,817		8,080	5,584 *—10.9%*	3,479		9,063	92
14,087 *9.7%*	1,502	18,208	33,797	13,166 *—6.5%*	2,806	19,714	35,686	12,070 *—8.3%*	2,745	18,583	33,398	93
19,989 *23.8%*	4,175		24,164	22,027 *10.2%*	7,130		29,157	20,064 *0.2%*	8,018		28,082	94
8,406 *69.0%*	1,448		9,854	11,045 *31.4%*	3,557		14,602	10,825 *—2.0%*	4,581		15,406	95
8,457			8,457	2,222	1,264		3,486					
708,114 *30.4%*	159,120	443,049	1,310,283	890,252 *25.7%*	263,042	598,100	1,751,394	898,550 *0.9%*	326,864	850,294	2,075,708	

TABLE XII—RELATION OF COUNTRY POPULATION TO

Counties	1850					1860					1870					1880					
	Country population	Per square mile	Per 100 acres, improved	Number of farms	Per farm	Country population	Per square mile	Per 100 acres, improved	Number of farms	Per farm	Country population	Per square mile	Per 100 acres, improved	Number of farms	Per farm	Area, square miles	Country population	Per square mile	Per 100 acres, improved	Number of farms	Per farm
1 Aitkin						2					178		2966.7	2	89.0	1,830	366	0.2	169.4	13	28.2
2 Anoka						1,504		34.5	201	7.5	2,442		29.0	338	7.2	459	4,402	9.6	11.7	816	5.4
3 Becker						386					308		115.4	7	44.0	1,349	4,441	3.3	11.1	749	5.9
4 Beltrami											80					4,841	10	•			
5 Benton	418		103.2			460		15.5	53	8.7	1,124		44.0	54	20.8	405	2,414	6.0	13.1	450	5.4
6 Big Stone											24		184.6	3	8.0	491	3,648	7.4	16.5	530	6.9
7 Blue Earth						3,244		26.4	476	6.8	12,596		12.2	1,965	6.4	762	16,505	21.7	6.1	2,745	6.0
8 Breckenridge						79															
9 Brown						1,704		34.7	268	6.4	5,086		15.0	966	5.3	612	8,383	13.7	6.0	1,456	5.8
10 Buchanan						26															
11 Carlton						51		71.8	4	12.8	286					867	512	0.6	23.8	87	5.9
12 Carver						3,830		29.2	813	4.7	10,739		31.5	1,568	6.8	376	11,427	30.4	12.3	1,771	6.5
13 Cass						150					380		513.5	2	190.0	3,567	486	0.1	61.8	67	7.3
14 Chippewa											1,467		15.4	287	5.1	591	4,546	7.7	7.1	1,034	4.4
15 Chisago						1,290		35.4	173	7.5	4,358		54.4	350	12.5	427	6,395	15.0	20.5	1,021	6.3
16 Clay											92		418.2	4	23.0	1,043	5,887	5.6	11.9	712	8.3
17 Clearwater																					
18 Cook																1,498	65	•	325.0	2	32.5
19 Cottonwood						12		20.0	2	6.0	534		68.3	43	12.4	640	5,090	8.0	7.3	1,082	4.7
20 Crow Wing						269			4	67.3	200		52.6	5	40.0	552	454	0.8	33.1	21	21.6
21 Dakota	584					6,364		16.3	944	6.7	11,751		7.2	1,764	6.7	599	12,506	20.9	5.4	1,977	6.3
22 Dodge						3,037		19.8	432	7.0	7,086		9.5	1,114	6.4	440	8,818	20.0	4.5	1,611	5.5
23 Douglas						195		33.8	20	9.8	4,239		30.3	654	6.5	648	7,523	11.6	10.5	1,371	5.5
24 Faribault						780		18.8	86	9.1	9,267		13.6	1,475	6.3	719	9,769	13.6	4.3	1,741	5.6
25 Fillmore						10,264		13.6	2,002	5.1	20,726		11.2	2,826	7.3	868	22,495	25.9	6.2	3,517	6.4
26 Freeborn						3,105		39.0	361	8.6	9,411		13.6	1,571	6.0	735	13,796	18.8	5.4	2,345	5.9
27 Goodhue						7,495		27.4	773	9.6	18,358		8.5	2,374	7.7	767	21,380	27.9	6.1	3,306	6.5
28 Grant											340		39.4	60	5.7	553	2,820	5.1	8.7	492	5.7
29 Hennepin						6,710		22.1	1,205	5.6	13,487		20.8	1,771	7.6	565	19,503	34.5	13.7	2,654	7.3
30 Houston						5,299		26.3	638	8.3	12,886		19.0	1,217	10.6	570	13,360	23.4	9.2	2,040	6.5
31 Hubbard																					
32 Isanti						284		50.8	28	10.1	2,035		26.7	348	5.8	442	4,927	11.1	18.9	868	5.7
33 Itasca	97		97.0			51					96					5,871	124	•			
34 Jackson						181		139.2	5	36.2	1,825		33.9	209	8.7	702	4,305	6.1	7.1	813	5.3
35 Kanabec						30		20.7	4	7.5				1		534	505	0.9	60.3	65	7.8
36 Kandiyohi						76		69.7			1,760		28.4	318	5.5	801	8,855	11.1	5.6	1,535	5.8
37 Kittson																2,781	905	0.3	42.2	128	7.1
38 Koochiching																					
39 Lac qui Parle											145		54.1	23	6.3	790	4,891	6.2	8.6	1,180	4.1
40 Lake						248					135		121.6	3	45.0	2,099	106	0.1	38.8	4	26.5
41 Le Sueur						4,616		32.3	885	5.2	10,598		28.5	1,535	6.9	466	13,041	28.0	11.8	2,171	6.0
42 Lincoln																535	2,945	5.5	12.2	683	4.3
43 Lyon																708	4,861	6.9	7.0	1,105	4.4
44 McLeod						955		28.2	137	7.0	5,203		24.3	943	5.5	496	10,684	21.5	7.7	1,743	6.1
45 Mahnomen	158																				
46 Mankahta																					
47 Manomin						136		15.7	16	8.5											
48 Marshall																1,788	992	0.6	19.3	200	5.0
49 Martin						151		75.1	8	18.9	3,867		19.9	699	5.5	719	4,577	6.4	8.3	948	4.8
50 Meeker						928		39.0	126	7.4	5,416		25.1	932	5.8	621	9,898	15.9	7.7	1,771	5.6
51 Mille Lacs						73		84.9	6	12.2	1,109		62.2	91	12.2	583	914	1.6	13.6	104	8.8
52 Monongalia						350		70.4	21	16.7	3,161		18.2	582	5.4						
53 Morrison						344		16.8	53	6.5	1,681		48.1	126	13.3	1,143	5,367	4.7	15.0	856	6.3
54 Mower						2,390		30.0	221	10.8	8,408		12.8	1,164	7.2	711	12,733	17.9	4.6	2,264	5.6
55 Murray						29		72.5	3	9.7	209		50.6	15	13.9	704	3,604	5.1	12.0	713	5.1
56 Nicollet						3,473		35.6	428	8.1	6,238		12.3	978	6.4	443	8,897	20.1	5.0	1,406	6.3
57 Nobles						35					117					722	3,799	5.3	5.6	819	4.6
58 Norman																					
59 Olmsted						8,100		15.8	1,290	6.3	15,591		7.7	2,269	6.9	666	15,095	22.7	4.7	1,542	9.8
60 Otter Tail						240		78.4	12	20.0	1,968		54.2	264	7.5	2,039	17,040	8.4	12.9	3,135	5.4
61 Pembina	1,134		1472.7			1,612					64										
62 Pennington																					
63 Pierce						11															
64 Pine						92		83.6	7	13.1	648		1440.0	2	324.0	1,413	1,365	1.0	97.5	54	25.3
65 Pipestone						23										469	1,870	4.0	8.6	1,462	1.3
66 Polk						240		54.5	6	40.0						4,450	9,762	2.2	8.0	1,753	5.6
67 Pope											2,691		21.3	555	4.8	693	5,874	8.5	7.4	1,023	5.7
68 Ramsey	577		125.9			1,482		28.4	196	7.6	3,055		29.9	243	12.6	161	3,982	24.7	16.0	533	7.5
69 Red Lake																					
70 Redwood											1,829		170.3	23	79.5	881	4,092	4.6	6.3	937	4.4
71 Renville						245		44.1	24	10.0	3,219		33.1	512	6.3	978	9,765	10.0	10.2	1,777	5.5
72 Rice						4,731		9.7	804	5.9	10,333		10.9	1,570	6.6	495	14,181	28.6	7.5	2,334	6.1
73 Rock											138		29.8	19	7.3	492	2,990	6.1	3.9	721	4.1
74 Roseau																					
75 Saint Louis						224		66.9	17	13.2	1,430					6,503	821	0.1	24.1	130	6.3
76 Scott						3,457		23.8	614	5.6	9,196		19.7	1,310	7.0	366	9,680	26.4	8.9	1,504	6.4
77 Sherburne						490		6.3	110	4.5	2,050		26.0	279	7.3	448	3,220	7.2	8.2	599	5.4

LAND IN MINNESOTA BY COUNTIES, 1850-1910

1890						1900						1910						
Area, square miles	Country population	Per square mile	Per 100 acres, improved	Number of farms	Per farm	Area, square miles	Country population	Per square mile	Per 100 acres, improved	Number of farms	Per farm	Area, square miles	Country population	Per square mile	Per 100 acres, improved	Number of farms	Per farm	Counties
1,830	1,725	0.9	64.2	151	11.4	1,830	5,024	2.7	24.3	768	6.5	1,830	8,387	4.6	24.1	1,348	6.2	1
459	5,632	12.3	13.6	964	5.8	459	7,421	16.2	8.5	1,356	5.5	459	7,710	16.8	7.6	1,445	5.3	2
1,349	7,383	5.5	10.4	1,210	6.1	1,349	10,396	7.7	7.2	1,947	5.3	1,349	12,901	9.6	7.2	2,074	6.2	3
4,841	312	0.1	241.9	56	5.6	4,841	8,250	1.7	34.9	1,243	6.6	3,822	9,671	2.5	29.1	1,577	6.1	4
405	4,306	10.6	8.7	776	5.5	405	7,048	17.4	7.8	1,275	5.5	405	7,586	18.7	7.0	1,279	5.9	5
491	4,446	9.1	4.3	787	5.6	491	5,685	11.6	2.3	1,044	5.4	491	5,165	10.5	2.1	961	5.4	6
762	18,726	24.6	5.3	3,025	6.2	762	17,893	23.5	4.9	3,186	5.6	762	15,076	19.8	4.2	2,941	5.1	7
																		8
612	9,847	16.1	4.1	1,632	6.0	612	10,827	17.7	3.5	1,857	5.8	612	10,010	16.4	3.3	1,807	5.5	9
																		10
867	1,544	1.8	66.2	98	15.8	867	5,544	6.4	40.9	605	9.2	867	8,259	9.5	30.0	1,195	6.9	11
376	11,990	31.9	12.1	1,843	6.5	376	12,159	32.3	10.0	1,975	6.2	376	11,607	30.9	9.0	1,992	5.8	12
3,041	808	0.3	28.5	86	9.4	2,104	6,693	3.2	32.5	668	10.0	2,104	7,700	3.7	19.1	948	8.1	13
591	7,118	12.0	5.5	1,117	6.4	591	8,814	14.9	2.9	1,687	5.2	591	8,434	14.3	2.8	1,499	5.6	14
427	7,644	17.9	17.6	1,377	5.6	427	9,420	22.1	11.0	1,969	4.8	427	9,547	22.4	9.1	2,005	4.8	15
1,043	7,815	7.5	4.8	1,314	5.9	1,043	11,783	11.3	2.7	1,994	5.9	1,043	11,583	11.1	2.7	1,738	6.7	16
												1,019	5,819	5.7	14.4	1,055	5.5	17
1,498	98	0.1	280.0	8	12.3	1,498	810	0.5	247.7	36	22.5	1,498	981	0.7	62.6	146	6.7	18
640	6,254	9.8	5.0	1,142	5.5	640	8,855	13.8	2.6	1,568	5.6	640	8,880	13.9	2.6	1,580	5.6	19
552	3,149	5.7	23.9	625	5.0	1,057	6,726	6.4	18.6	1,241	5.4	1,057	7,359	7.0	14.2	1,148	6.4	20
599	11,207	18.7	4.7	1,880	6.0	599	11,778	19.7	4.3	2,152	5.5	599	11,249	18.8	4.3	2,163	5.2	21
440	8,779	20.0	4.6	1,493	5.9	440	9,293	21.1	4.2	1,651	5.6	440	8,350	19.0	3.4	1,587	5.3	22
648	11,339	17.5	9.6	1,951	5.8	648	13,506	20.8	7.0	2,407	5.6	648	12,135	18.7	5.5	2,265	5.4	23
719	11,563	16.1	3.7	2,032	5.7	719	13,075	18.2	3.3	2,232	5.9	719	11,684	16.3	3.0	2,139	5.5	24
868	20,521	23.6	5.7	3,272	6.3	868	19,742	22.7	5.1	3,477	5.7	868	16,398	18.9	4.2	3,213	5.1	25
735	14,292	19.4	5.2	2,313	6.2	735	15,637	21.3	4.6	2,691	5.8	735	14,588	19.8	4.4	2,477	5.9	26
767	19,353	25.2	5.3	3,190	6.1	767	18,979	24.7	5.1	3,210	5.9	767	17,403	22.7	4.8	3,040	5.7	27
553	6,055	10.9	5.2	1,035	5.9	553	6,974	12.6	3.1	1,245	5.6	553	6,379	11.5	2.5	1,185	5.4	28
565	15,823	28.0	11.2	2,781	5.7	565	19,171	33.9	9.7	3,684	5.2	565	18,696	33.1	9.9	3,853	4.9	29
570	11,767	20.6	7.6	1,954	6.0	570	12,203	21.4	7.2	2,130	5.7	570	10,472	18.4	6.0	1,912	5.5	30
526	1,412	2.7	8.5	194	7.3	958	5,036	5.3	17.1	641	7.9	958	7,460	7.8	13.4	843	8.8	31
442	7,349	16.6	19.1	1,341	5.5	442	10,938	24.7	12.8	2,044	5.4	442	10,993	24.9	10.0	2,063	5.3	32
5,871	743	0.1	174.4	18	41.3	5,871	2,799	0.5	65.5	217	12.9	2,730	5,808	2.1	42.6	830	7.0	33
702	7,433	10.6	6.1	1,346	5.5	702	10,864	15.5	3.1	1,949	5.6	702	10,539	15.0	3.0	1,906	5.5	34
534	1,579	3.0	46.9	215	7.3	534	3,829	7.2	27.7	749	5.1	534	5,110	9.6	13.7	1,017.	5.0	35
801	11,532	14.4	5.4	1,958	5.9	801	13,774	17.2	4.0	2,265	6.1	801	12,880	16.1	3.5	2,237	5.8	36
2,781	5,085	1.8	4.3	885	5.7	1,111	6,670	6.0	3.2	1,266	5.3	1,111	7,624	6.9	2.7	1,210	6.3	37
												3,141	3,945	1.3	71.4	444	8.9	38
790	9,173	11.6	4.4	1,550	5.9	790	10,942	13.9	2.8	1,951	5.6	790	10,819	13.7	2.7	1,863	5.8	39
2,099	1,299	0.6	495.8	6	216.5	2,099	1,376	0.7	566.3	19	72.4	2,099	2,530	1.2	106.3	210	12.0	40
466	13,568	29.1	10.0	2,120	6.4	466	13,229	28.4	8.9	2,472	5.4	466	11,357	24.4	7.0	2,218	5.1	41
535	5,041	9.4	4.9	1,045	4.8	535	7,561	14.1	3.2	1,340	5.6	535	7,429	13.9	3.0	1,304	5.7	42
708	6,573	9.3	4.7	1,198	5.5	708	8,938	12.6	2.7	1,632	5.5	708	9,064	12.8	2.6	1,682	5.4	43
496	12,827	25.9	6.4	2,070	6.2	496	13,207	26.6	5.9	2,335	5.7	496	12,278	24.8	5.1	2,268	5.4	44
												572	2,223	3.9	9.2	248	9.0	45
																		46
																		47
1,788	7,911	4.4	5.1	1,532	5.2	1,788	13,080	7.3	3.8	2,464	5.3	1,788	12,742	7.1	3.3	2,121	6.0	48
719	7,742	10.8	5.2	1,495	5.2	719	11,886	16.5	3.1	2,138	5.6	719	11,453	15.9	3.0	2,181	5.3	49
621	12,329	19.9	8.0	2,179	5.7	621	13,953	22.5	5.4	2,511	5.6	621	12,876	20.7	4.8	2,346	5.5	50
583	1,338	2.3	12.2	180	7.4	583	5,280	9.0	16.8	1,022	5.2	583	7,530	12.9	15.5	1,278	5.9	51
																		52
1,143	9,864	8.6	14.4	1,537	6.4	1,143	15,447	13.5	10.4	2,400	6.4	1,143	15,433	13.5	8.4	2,622	5.9	53
711	12,268	17.3	4.4	2,150	5.7	711	13,543	19.0	3.4	2,447	5.5	711	12,079	17.0	3.1	2,386	5.1	54
704	5,794	8.2	5.1	1,050	5.5	704	9,446	13.4	2.8	1,713	5.5	704	8,741	12.4	2.5	1,640	5.3	55
443	9,448	21.3	4.7	1,456	6.5	443	9,029	20.4	4.3	1,454	6.2	443	7,929	17.9	4.2	1,414	5.6	56
722	5,865	8.1	3.7	1,172	5.0	722	10,020	13.9	3.4	1,751	5.7	722	9,359	13.0	2.4	1,819	5.1	57
1,432	9,996	7.0	5.5	1,698	5.9	1,432	12,994	9.1	4.1	1,938	6.7	860	9,988	11.6	3.2	1,653	6.0	58
666	13,282	19.9	4.3	2,248	5.9	666	14,148	21.2	4.3	2,539	5.6	666	12,451	18.7	3.9	2,310	5.4	59
2,039	28,426	13.9	9.1	4,825	5.9	2,039	35,142	17.2	7.0	6,227	5.6	2,039	32,472	15.9	5.5	5,804	5.6	60
																		61
												607	5,194	8.6	3.8	1,244	4.2	62
																		63
1,413	2,382	1.7	49.8	261	9.1	1,413	8,076	5.7	26.4	1,416	5.7	1,413	11,081	7.8	17.1	2,066	5.4	64
469	3,350	7.1	3.8	613	5.5	469	4,827	10.3	2.3	997	4.8	469	5,116	10.9	2.0	1,055	4.8	65
3,018	23,821	7.9	5.6	4,606	5.2	1,979	25,148	12.7	3.9	4,340	5.8	1,979	22,127	11.2	3.4	3,525	6.3	66
693	8,978	13.0	5.6	1,550	5.7	693	10,133	14.6	3.5	1,872	5.4	693	9,036	13.0	3.2	1,649	5.5	67
161	3,830	23.8	16.6	519	7.4	161	4,741	29.4	12.2	923	5.2	161	5,647	35.1	13.7	1,067	5.3	68
						1,039	7,651	7.4	5.2	1,385	5.5	432	4,668	10.8	6.1	527	8.9	69
881	7,518	8.5	5.1	1,353	5.6	881	12,940	14.7	3.1	2,348	5.5	881	12,760	14.5	2.9	2,311	5.5	70
978	14,213	14.5	6.2	2,529	5.6	978	17,162	17.5	3.4	3,013	5.7	978	15,994	16.4	3.1	2,871	5.6	71
495	13,536	27.3	6.2	2,475	5.5	495	13,280	26.8	5.8	2,672	5.0	495	11,813	23.9	5.1	2,380	5.0	72
492	5,119	10.4	3.6	931	5.5	492	6,712	13.6	2.5	1,169	5.7	492	6,495	13.2	2.4	1,205	5.4	73
						1,670	6,529	3.9	8.8	1,444	4.5	1,670	8,846	5.3	5.6	1,602	5.5	74
6,503	5,471	0.8	112.4	326	16.8	6,503	12,442	1.9	109.1	696	17.9	6,503	34,331	5.3	83.5	2,465	13.9	75
366	9,471	25.9	7.6	1,506	6.3	366	9,540	26.1	7.7	1,649	5.8	366	7,983	21.8	6.0	1,520	5.3	76
448	4,734	10.6	7.7	775	6.1	448	5,641	12.6	5.7	1,054	5.4	448	5,591	12.5	5.0	1,190	4.7	77

TABLE XII—Relation of Country Population to

Counties	1850					1860					1870					1880					
	Country population	Per square mile	Per 100 acres, improved	Number of farms	Per farm	Country population	Per square mile	Per 100 acres, improved	Number of farms	Per farm	Country population	Per square mile	Per 100 acres, improved	Number of farms	Per farm	Area, square miles	Country population	Per square mile	Per 100 acres, improved	Number of farms	Per farm
78 Sibley						2,731		35.2	592	4.6	6,019		19.2	1,118	5.4	585	9,673	16.5	7.8	1,579	6.1
79 Stearns						4,505		25.6	709	6.4	12,045		21.8	2,000	6.0	1,362	18,001	13.2	9.6	2,885	6.2
80 Steele						2,254		23.7	330	6.8	6,201		13.0	831	7.5	431	8,961	20.8	4.6	1,607	5.6
81 Stevens											174		23.4	47	3.7	564	3,077	5.5	4.7	660	4.7
82 Swift																741	6,617	8.9	8.2	1,307	5.1
83 Todd						430		55.3	35	12.3	2,036		54.1	176	11.6	957	6,133	6.4	12.9	1,048	5.9
84 Toombs						40															
85 Traverse											13		65.0	2	6.5	568	1,507	2.7	9.3	396	3.8
86 Wabasha	243		55.4			5,813		24.2	812	7.2	11,279		8.3	1,883	6.0	541	11,594	21.4	5.4	1,983	5.8
87 Wadena											6		100.0	1	6.0	538	1,773	3.3	21.3	259	6.8
88 Wahnahta	160		24.9																		
89 Waseca						2,341		42.4	191	12.3	6,356		12.9	1,030	6.2	431	9,352	21.7	5.3	1,535	6.1
90 Washington	435		14.9			3,743		20.1	450	8.3	5,987		12.9	679	8.8	397	10,048	25.3	9.6	1,333	7.5
91 Watonwan											2,285		13.7	407	5.6	434	4,171	9.6	6.9	824	5.1
92 Wilkin											295		32.6	49	6.0	745	1,906	2.6	9.6	349	5.5
93 Winona						6,744		23.4	759	8.9	13,885		10.2	2,037	6.8	637	15,593	24.5	7.1	2,394	6.5
94 Wright						2,376		23.6	645	3.7	9,457		40.0	807	11.7	691	16,144	23.4	16.2	2,717	5.9
95 Yellow Medicine																749	4,975	6.6	7.2	1,020	4.9
96 Indian Reservations																					
Totals for the State	3,806		75.6			122,530		22.0	*17,999	6.8	327,698		14.1	46,500	7.0	80,858	543,193	6.7	7.5	92,386	5.9

* Total as taken from returns by counties; state total as given in Census Report, 18,181.

LAND IN MINNESOTA BY COUNTIES, 1850-1910—*Continued*

1890						1900						1910						
Area, square miles	Country population	Per square mile	Per 100 acres, improved	Number of farms	Per farm	Area, square miles	Country population	Per square mile	Per 100 acres, improved	Number of farms	Per farm	Area, square miles	Country population	Per square mile	Per 100 acres, Improvement	Number of farms	Per Farm	Counties
585	12,547	21.4	5.5	1,985	6.3	585	12,731	21.8	4.6	2,177	5.8	585	11,351	19.4	4.0	2,055	5.5	78
1,362	24,810	18.2	9.9	3,583	6.9	1,362	27,418	20.1	6.5	4,449	6.2	1,362	26,941	19.8	6.0	4,255	6.3	79
431	9,075	21.1	4.3	1,590	5.7	431	10,108	23.5	4.5	1,801	5.6	431	9,373	21.7	4.2	1,824	5.1	80
564	3,767	6.7	4.2	702	5.4	564	5,899	10.5	2.4	1,156	5.1	564	5,480	9.7	2.1	1,015	5.4	81
741	7,861	10.6	6.1	1,366	5.8	741	9,831	13.3	2.9	1,795	5.5	741	8,533	11.5	2.4	1,537	5.6	82
957	11,953	12.5	17.1	1,786	6.7	957	17,076	17.8	11.3	3,034	5.6	957	16,588	17.3	8.2	2,994	5.5	83
																		84
568	3,635	6.4	3.6	815	4.5	568	5,264	9.3	2.0	1,086	4.8	568	5,286	9.3	1.7	942	5.6	85
541	11,586	21.4	5.3	1,768	6.6	541	10,554	19.5	4.6	1,917	5.5	541	9,448	17.5	4.1	1,787	5.3	86
538	2,523	4.7	9.8	402	6.3	538	5,093	9.5	8.3	990	5.1	538	5,520	10.3	7.9	1,004	5.5	87
																		88
431	9,487	22.0	4.7	1,612	5.9	431	9,653	22.4	4.3	1,672	5.8	431	8,554	19.8	4.1	1,567	5.5	89
397	10,663	26.9	9.0	1,554	6.9	397	12,958	32.6	8.9	1,843	7.0	397	11,975	30.2	7.8	1,943	6.2	90
434	5,955	13.7	4.6	1,039	5.7	434	7,285	16.8	3.3	1,291	5.6	434	7,135	16.4	3.2	1,269	5.6	91
745	3,517	4.7	4.2	591	6.0	745	6,263	8.4	2.3	1,117	5.6	745	5,584	7.5	1.8	986	5.7	92
637	14,087	22.1	6.4	2,054	6.9	637	13,166	20.7	5.7	2,359	5.6	637	12,070	18.9	5.1	2,141	5.6	93
691	19,989	28.9	15.7	3,522	5.7	691	22,027	31.9	10.2	3,992	5.5	691	20,064	29.0	8.4	3,814	5.3	94
749	8,406	11.2	4.6	1,458	5.8	749	11,045	14.7	3.1	1,872	5.9	749	10,825	14.5	2.9	1,838	5.9	95
	8,457						2,222		8.9	348	6.4							96
80,858	708,114	8.8	6.4	116,851	6.1	†80,858	890,252	11.0	4.9	154,659	5.8	80,858	898,550	11.1	4.6	156,137	5.8	

† These figures are based on those used by the Census for 1910, and therefore differ slightly from the area used in the Census of 1900, which later calculations showed to be in error.

TABLE XIII.—Acreage and Production of Wheat in Minnesota by Counties, 1850-1910

Counties	1850	1860	1870	1880			1890			1900			1910		
	Bushels	Bushels	Bushels	Area, acres	Production, bushels	Bushels per acre	Area, acres	Production, bushels	Bushels per acre	Area, acres	Production, bushels	Bushels per acre	Area, acres	Production, bushels	Bushels per acre
Aitkin							3	60	20.0	562	9,390	16.7	116	1,621	14.0
Anoka		8,762	27,393	7,754	94,058	12.1	264	4,067	15.4	4,730	72,790	15.4	1,523	28,487	18.7
Becker			2,850	16,004	212,629	13.3	33,225	418,543	12.6	58,229	872,060	15.0	38,857	553,456	14.2
Beltrami							3	15	5.0	1,948	34,350	17.6	1,013	14,470	14.3
Benton		2,592	3,541	5,161	74,739	14.5	12,513	175,974	14.1	27,980	457,850	16.4	17,147	314,948	18.4
Big Stone				9,346	110,659	11.8	56,829	1,008,835	17.8	137,221	1,904,500	13.9	78,764	1,285,562	16.3
Blue Earth		21,513	725,879	96,416	858,647	8.9	75,977	1,375,050	18.1	156,610	2,177,520	13.9	85,509	1,471,598	17.2
Breckenridge															
Brown		6,230	213,970	54,766	424,051	7.7	77,017	1,331,604	17.3	136,890	2,008,320	14.7	59,691	1,143,114	19.2
Buchanan															
Carlton		142		60	1,157	19.3	5	106	21.2	257	3,960	15.4	372	5,127	13.8
Carver		28,137	298,852	33,730	595,058	17.6	39,187	890,449	22.7	47,792	927,190	19.4	37,531	810,616	21.6
Cass				7	60	8.6	75	560	7.5	3,641	48,600	13.3	618	7,710	12.5
Chippewa			9,318	30,245	354,421	11.7	63,041	891,519	14.1	138,920	1,876,660	13.5	58,326	1,077,269	18.5
Chisago		5,787	32,857	9,912	153,709	15.5	5,635	106,821	18.9	17,454	318,280	18.2	11,441	249,600	21.8
Clay				24,341	370,239	15.2	95,771	1,284,176	13.4	179,584	2,593,390	14.4	111,607	1,545,224	13.8
Clearwater													4,745	73,397	15.5
Cook										2	30	15.0	3	75	25.0
Cottonwood			311	30,860	127,228	4.1	38,772	517,086	13.3	131,946	1,653,860	12.5	17,707	298,191	16.8
Crow Wing				148	2,103	14.2	971	17,859	18.4	5,140	82,200	16.0	2,138	25,693	12.0
Dakota		173,652	1,435,874	123,958	1,323,975	10.7	3,544	64,806	18.3	26,782	434,500	16.2	16,496	334,230	20.3
Dodge		74,757	634,741	90.400	884,839	9.8	7,680	132,900	17.3	26,476	344,040	13.0	9,683	175,229	18.1
Douglas		150	59,375	27,692	459,877	16.6	65,596	1,242,496	18.9	97,299	1,823,830	18.7	63,643	1,208,710	19.0
Faribault		5,285	552,940	61,366	645,618	10.5	76,850	1,265,001	16.5	154,617	1,943,020	12.6	73,274	1,170,259	16.0
Fillmore		391,350	1,688,034	165,904	1,626,387	9.8	8,765	156,728	17.9	21,657	326,910	15.1	9,264	159,515	17.2
Freeborn		16,001	538,398	103,783	1,143,859	11.0	37,329	595,623	16.0	69,241	1,010,420	14.6	41,870	739,156	17.7
Goodhue		152,348	1,815,603	199,142	2,415,891	12.1	32,580	604,327	18.5	70,998	1,192,880	16.8	33,003	639,250	19.4
Grant			1,552	15,857	226,467	14.3	63,001	1,150,987	18.3	94,922	1,362,230	14.4	54,207	923,778	17.0
Hennepin		135,715	379,063	49,020	671,015	13.7	11,258	239,275	21.3	36,117	657,320	18.2	17,560	399,733	22.8
Houston		108,518	623,557	62,161	654,336	10.5	8,477	129,619	15.3	10,606	174,500	16.5	3,545	65,500	18.5
Hubbard							9,561	138,084	14.4	13,365	176,810	13.2	3,115	28,657	9.2
Isanti		407	16,025	9,505	140,546	14.8	2,251	35,482	15.8	13,882	229,640	16.5	9,339	175,898	18.8
Itasca	10									120	1,940	16.2	69	1,289	18.7
Jackson		57	24,150	15,952	81,680	5.1	20,845	294,797	14.1	99,505	1,021,980	10.3	6,157	104,843	17.0
Kanabec		4	100	193	2,445	12.7	70	882	12.6	2,234	40,330	18.1	1,527	26,734	17.5
Kandiyohi		154	20,161	60,326	800,753	13.3	89,284	1,220,275	13.7	142,126	2,090,900	14.7	69,216	1,409,545	20.4
Kittson				146	2,110	14.5	66,536	751,227	11.3	104,085	1,772,120	17.0	95,621	1,362,845	14.3
Koochiching													15	345	23.0
Lac qui Parle				22,937	274,085	11.9	106,889	1,639,868	15.3	218,420	3,219,230	14.7	104,421	1,725,859	16.5
Lake			220							3	80	26.7	5	113	22.6
Le Sueur		34,701	248,609	37,430	580,793	15.5	45,363	989,016	21.8	74,012	1,331,840	18.0	63,317	1,242,597	19.6
Lincoln				9,047	94,889	10.5	36,745	332,008	9.0	105,147	1,374,010	13.1	29,046	467,079	16.1
Lyon				35,785	323,044	9.0	59,892	683,112	11.4	152,634	2,105,800	13.8	20,912	334,708	16.0
McLeod		6,500	149,451	40,592	537,447	13.1	65,907	1,400,973	21.3	87,319	1,651,430	18.9	65,102	1,416,200	21.8
Mahnomen		250											4,127	52,664	12.8
Mankahta															
Marshall				173	3,594	20.8	89,065	1,156,171	13.0	149,040	2,225,440	14.9	96,561	1,437,876	14.9
Martin		245	99,565	13,161	100,924	7.7	16,058	261,677	16.3	107,934	1,114,990	10.3	5,629	83,631	14.9
Meeker		8,324	135,147	55,008	665,269	12.1	87,890	1,514,911	17.2	113,068	1,805,980	16.0	74,397	1,583,854	21.3
Mille Lacs		84	7,920	1,192	16,440	13.8	384	6,853	17.8	4,002	73,490	18.4	2,427	53,533	22.1
Monongalia		1,250	77,154												
Morrison		3,014	11,927	11,992	199,931	16.7	30,903	485,267	15.7	63,894	986,150	15.4	40,637	616,640	15.2
Mower		31,476	673,017	138,023	1,370,160	9.9	6,507	108,763	16.7	15,402	198,990	12.9	6,377	115,411	18.1
Murray			835	12,587	77,970	6.2	34,642	363,753	10.5	118,231	1,531,850	13.9	5,905	92,425	15.7
Nicollet		22,434	315,803	59,094	704,290	11.9	70,173	1,312,239	18.7	82,476	1,482,440	18.0	56,227	1,086,536	19.3
Nobles				22,353	60,698	2.7	34,594	392,127	11.3	107,058	1,251,220	11.7	1,188	18,397	15.5
Norman							107,415	1,233,249	11.5	137,419	1,459,030	10.6	80,758	1,213,075	15.0
Olmsted		232,469	2,117,074	152,204	1,656,286	10.9	10,320	198,992	19.3	24,487	396,200	16.2	7,429	137,041	18.5
Otter Tail		700	8,406	56,189	860,965	15.3	160,133	2,623,538	16.4	241,169	3,941,120	16.3	166,023	2,436,207	14.7
Pembina	100														
Pennington													21,803	331,193	15.2
Pierce															
Pine		143	86	122	1,554	12.8	107	1,590	14.9	3,971	69,440	17.5	3,551	58,751	16.5
Pipestone				5,673	37,547	6.6	27,921	204,089	7.3	74,786	951,800	12.7	7,481	113,990	15.2
Polk		950		30,061	529,692	17.6	237,429	3,013,361	12.7	305,807	4,128,620	13.5	164,229	2,621,256	16.0
Pope			53,721	32,233	381,977	11.9	79,201	1,163,201	14.7	130,502	1,779,850	13.6	68,491	1,220,437	17.8
Ramsey	390	12,266	54,321	8,460	122,466	14.5	331	6,091	18.4	2,912	53,640	18.4	635	14,377	22.6
Red Lake										55,221	747,450	13.5	10,279	165,942	16.1
Redwood			5,409	34,014	207,535	6.1	57,224	871,087	15.2	164,508	2,529,620	15.4	72,339	1,193,156	16.5
Renville		200	43,289	57,784	605,404	10.5	132,281	1,956,002	14.8	225,178	3,698,160	16.4	124,802	2,758,325	22.1
Rice		130,433	531,206	74,873	907,514	12.1	30,609	570,450	18.6	62,036	1,071,330	17.3	42,799	895,927	20.9
Rock			130	36,018	118,378	3.3	27,684	348,658	12.6	74,211	1,046,740	14.1	2,276	33,611	14.8
Roseau										5,894	89,780	15.2	18,172	243,362	13.4
Saint Louis		253		209	3,878	18.6				54	870	16.1	91	1,899	20.9
Scott		48,797	362,406	40,863	697,261	17.1	31,906	604,999	19.0	46,116	846,750	18.4	34,095	704,437	20.7
Sherburne		9,640	26,457	8,527	115,388	13.5	7,044	79,398	11.3	18,883	227,930	12.1	3,709	61,945	16.7
Sibley		15,014	237,706	46.393	598,956	12.9	82,938	1,622,764	19.6	106,711	1,812,140	17.0	83,941	1,671,795	19.9

TABLE XIII—ACREAGE AND PRODUCTION OF WHEAT IN MINNESOTA BY COUNTIES, 1850-1910—*Continued*

COUNTIES	1850	1860	1870	1880			1890			1900			1910		
	Bushels	Bushels	Bushels	Area, acres	Production, bushels	Bushels per acre	Area, acres	Production, bushels	Bushels per acre	Area, acres	Production, bushels	Bushels per acre	Area, acres	Production, bushels	Bushels per acre
Stearns		55,801	305,114	79,193	1,135,704	14.3	131,656	1,992,246	15.1	192,515	3,022,230	15.7	116,052	2,180,607	18.8
Steele		28,131	385,214	76,772	846,219	11.0	33,969	462,770	13.6	65,047	963,250	14.8	43,597	775,609	17.8
Stevens			2,064	31,517	417,076	13.2	42,937	731,824	17.0	123,782	1,591,660	12.9	62,332	1,022,204	16.4
Swift				44,396	492,763	11.1	66,098	971,484	14.7	163,542	1,994,730	12.2	85,016	1,396,548	16.4
Todd		585	15,907	13,433	190,074	14.1	28,322	432,933	15.3	66,317	1,036,060	15.6	36,082	566,915	15.7
Toombs															
Traverse				3,448	45,668	13.2	67,614	1,301,646	19.3	161,660	2,057,510	12.7	86,358	1,487,530	17.2
Wabasha	200	114,227	1,480,293	118,435	1,461,674	12.3	16,673	305,388	18.3	26,404	427,400	16.2	9,458	176,935	18.7
Wadena				2,976	47,634	16.0	12,186	126,861	10.4	25,657	307,180	12.0	4,898	47,761	9.8
Wahnahta	150														
Waseca		16,648	400,288	68,827	693,861	10.1	53,820	794,458	14.8	86,663	1,251,860	14.4	58,346	977,335	16.8
Washington	551	76,264	444,411	52,268	657,569	12.6	6,116	117,856	19.3	21,541	352,610	16.4	9,851	219,419	22.3
Watonwan			75,865	23,854	121,613	5.1	27,900	497,702	17.8	85,921	992,320	11.6	13,357	226,009	16.9
Wilkin			465	5,141	72,500	14.1	47,902	763,185	15.8	138,202	1,781,820	12.9	89,955	1,338,601	14.9
Winona		166,950	1,357,954	113,962	1,216,872	10.7	24,259	466,845	19.2	19,127	286,540	15.0	3,376	67,111	19.9
Wright		37,663	134,095	38,792	603,240	15.6	52,868	1,147,154	21.7	93,023	1,731,720	18.6	63,448	1,385,441	21.8
Yellow Medicine				24,504	285,672	11.7	79,837	998,455	12.5	173,855	2,552,700	14.7	70,892	1,190,464	16.8
Indian Reservations										6,008	81,340	13.5			
Totals for the State	1,401	*2,186,973	18,866,073	3,044,670	34,601,030	11.4	3,372,627	52,300,247	15.5	6,560,707	95,278,660	14.5	3,276,911	57,094,412	17.4

* Totals given in census (1860, p. 81) 2,186,993.
Correct sum of county items 2,186,973.

TABLE XIV—ACREAGE AND PRODUCTION OF OATS IN MINNESOTA BY COUNTIES, 1850-1910

COUNTIES	1850	1860	1870	1880			1890			1900			1910		
	Bushels	Bushels	Bushels	Area, acres	Production, bushels	Bushels per acre	Area, acres	Production, bushels	Bushels per acre	Area, acres	Production, bushels	Bushels per acre	Area, acres	Production, bushels	Bushels per acre
Aitkin				13	490	37:7	319	10,785	33.8	716	23,800	33.2	1,066	23,471	22.0
Anoka		9,917	17,715	1,862	54,876	29.5	6,272	213,178	34.0	7,952	257,580	32.4	9,668	278,498	28.8
Becker			1,553	3,158	122,377	38.8	10,281	165,548	16.1	16,268	497,960	30.6	32,274	778,353	24.1
Beltrami										741	20,460	27.6	1,915	47,856	25.0
Benton	60	5,700	7,672	1,571	52,214	33.2	8,244	207,810	25.2	8,353	259,750	31.1	13,418	492,874	36.7
Big Stone				1,995	77,882	39.0	12,796	406,404	31.8	20,606	644,840	31.3	27,200	953,654	35.1
Blue Earth		22,838	467,575	21,766	699,426	32.1	35,528	1,329,254	37.4	39,746	1,391,370	35.0	43,732	1,487,907	34.0
Breckenridge															
Brown		9,071	156,768	12,004	453,274	37.8	21,010	828,322	39.4	26,767	1,037,460	38.8	35,397	1,277,400	36.1
Buchanan															
Carlton		268		152	5,395	35.5	88	2,411	27.4	349	9,740	27.9	1,342	40,290	30.0
Carver		16,669	140,375	6,498	291,460	44.9	9,169	430,425	46.9	10,318	468,610	45.4	13,409	580,154	43.3
Cass			1,200				144	2,208	15.3	1,437	34,070	23.7	2,856	48,873	17.1
Chippewa			2,465	5,874	240,275	40.9	17,009	519,908	30.6	27,396	1,015,260	37.1	59,142	2,067,318	35.0
Chisago		13,115	39,596	2,980	109,112	36.6	7,003	256,118	36.6	12,701	498,130	39.2	15,788	568,407	36.0
Clay				4,932	191,154	38.8	29,531	530,567	18.0	51,219	1,447,380	28.3	89,463	2,331,847	26.1
Clearwater													4,325	114,288	26.4
Cook										1	30	30.0	50	2,335	46.7
Cottonwood			215	5,857	205,155	35.0	22,940	623,534	27.2	34,172	1,154,310	33.8	62,775	1,873,350	29.8
Crow Wing				208	5,899	28.4	2,347	59,976	25.6	4,181	100,340	24.0	5,950	104,963	17.6
Dakota		270,211	634,806	19,735	731,897	37.1	75,755	2,534,796	33.5	99,398	3,348,030	33.7	69,781	2,211,177	31.7
Dodge		51,311	384,528	17,114	666,081	38.9	21,854	777,999	35.6	33,111	954,300	28.8	25,114	643,343	25.6
Douglas		1,220	65,568	6,748	277,996	41.2	14,336	441,548	30.8	18,827	701,650	37.3	23,385	820,913	35.1
Faribault		6,804	394,992	19,012	684,894	36.0	38,312	1,281,839	33.5	39,233	1,212,120	30.9	47,105	1,390,702	29.5
Fillmore		295,000	976,281	36,681	1,370,309	37.4	69,259	2,750,757	39.7	87,179	3,011,400	34.5	70,775	2,198,157	31.1
Freeborn		7,123	326,766	20,445	747,030	36.5	41,845	1,401,041	33.5	54,935	1,702,330	31.0	45,274	1,093,453	24.2
Goodhue		104,509	825,301	29,794	1,275,772	42.8	59,266	2,348,374	39.6	50,613	1,680,880	33.2	49,044	1,678,348	34.2
Grant			2,273	3,047	137,952	45.3	15,169	440,835	29.1	26,317	824,230	31.3	47,593	1,542,716	32.4
Hennepin		136,696	226,361	10,594	414,664	39.1	24,877	991,205	39.8	27,025	990,500	36.7	20,941	757,434	36.2
Houston		63,553	227,688	14,699	514,076	35.0	37,053	1,261,577	34.0	42,617	1,345,090	31.6	29,748	849,657	28.6
Hubbard							2,906	47,884	16.5	2,603	55,050	21.1	10,377	150,076	14.5
Isanti		749	11,860	1,919	64,604	33.7	8,219	267,704	32.6	11,677	386,940	33.1	15,249	527,392	34.6
Itasca							11	420	38.2	219	6,280	28.7	515	14,159	27.5
Jackson			24,366	6,069	202,634	33.4	21,510	558,937	26.0	45,696	1,302,310	28.5	74,229	2,149,869	29.0
Kanabec		750	200	49	1,585	32.3	593	17,496	29.5	1,119	40,130	35.9	3,499	113,598	32.5
Kandiyohi			7,832	10,390	426,642	41.1	20,221	582,556	28.8	28,262	1,010,220	35.7	48,237	1,771,599	36.7
Kittson				65	1,870	28.8	9,438	161,663	17.1	20,431	717,530	35.1	36,936	1,029,360	27.9
Koochiching													162	5,050	31.2

TABLE XIV—ACREAGE AND PRODUCTION OF OATS IN MINNESOTA BY COUNTIES, 1850-1910—*Continued*

Counties	1850	1860	1870	1880			1890			1900			1910		
	Bushels	Bushels	Bushels	Area, acres	Production, bushels	Bushels per acre	Area, acres	Production, bushels	Bushels per acre	Area, acres	Production, bushels	Bushels per acre	Area, acres	Production, bushels	Bushels per acre
Lac qui Parle				3,765	165,295	43.9	20,498	607,794	29.7	29,179	1,134,780	38.9	61,052	2,187,058	35.8
Lake				21	558	26.6	8	212	26.5	7	230	32.9	7	310	44.3
Le Sueur		51,096	152,682	6,535	267,553	40.9	8,271	346,909	41.9	8,492	339,210	39.9	10,391	427,419	41.1
Lincoln				1,998	78,589	39.3	11,118	136,854	12.3	21,504	776,410	36.1	28,367	958,643	33.8
Lyon				7,706	278,914	36.2	20,454	446,596	21.8	29,003	1,111,700	38.3	67,207	2,186,449	32.5
McLeod		4,894	96,487	9,201	401,934	43.7	15,447	665,098	43.1	16,460	777,420	47.2	18,798	799,011	42.5
Mahnomen													3,514	78,890	22.5
Mankahta															
Manomin		8,175													
Marshall				108	2,638	24.4	12,930	265,172	20.5	29,643	924,030	31.2	47,589	1,280,787	26.9
Martin		50	107,042	9,643	332,225	34.5	33,664	1,093,662	32.5	60,921	1,879,310	30.8	105,977	3,155,585	29.8
Meeker		6,739	92,532	10,132	398,071	39.3	17,235	557,385	32.3	20,408	832,250	40.8	26,155	1,040,683	39.8
Mille Lacs		104	9,131	563	18,571	33.0	1,468	46,496	31.7	2,319	80,390	34.7	3,998	164,764	41.2
Monongalia		720	48,999												
Morrison		13,008	18,987	3,298	157,546	47.8	11,480	315,728	27.5	15,950	495,490	31.1	23,195	694,529	29.9
Mower		21,792	463,085	27,443	1,044,943	38.1	62,313	2,433,849	39.1	114,452	4,188,380	36.6	100,730	3,020,317	30.0
Murray			522	3,317	111,417	33.6	18,132	355,620	19.6	35,704	1,273,740	35.7	62,511	1,809,650	28.9
Nicollet		49,726	264,565	14,899	491,304	33.0	16,664	773,769	46.4	18,196	808,160	44.4	20,227	782,822	38.7
Nobles				6,978	141,862	20.3	27,031	526,289	19.5	51,000	1,610,920	31.6	89,972	2,537,176	28.2
Norman							23,438	315,403	13.5	31,676	754,550	23.8	52,300	1,338,434	25.6
Olmsted		222,393	996,364	28,377	1,093,924	38.5	47,297	1,936,364	40.9	59,063	2,089,320	35.4	47,792	1,414,011	29.6
Otter Tail		1,630	6,701	12,030	437,748	36.4	42,777	1,001,020	23.4	52,059	1,541,520	29.6	83,328	2,142,813	25.7
Pembina															
Pennington													16,033	421,078	26.3
Pierce															
Pine		370	460	86	2,824	32.8	359	9,995	27.8	2,258	74,460	33.0	6,567	195,002	29.7
Pipestone				1,711	52,192	30.5	15,102	152,332	10.1	28,120	964,580	34.3	47,695	1,354,742	28.4
Polk		1,400		6,678	226,221	33.9	44,215	816,626	18.5	65,267	1,873,450	28.7	96,774	2,747,228	28.4
Pope			44,395	6,815	288,337	42.3	21,275	619,853	29.1	29,518	907,460	30.7	43,227	1,490,207	34.5
Ramsey	6,260	43,054	53,868	2,258	80,204	35.5	3,145	127,724	40.6	6,906	273,000	39.5	6,405	237,835	37.1
Red Lake										20,818	607,300	29.2	16,478	422,846	25.7
Redwood			6,978	6,614	212,647	32.2	18,796	553,233	29.4	29,601	1,250,370	42.2	68,666	2,419,502	35.2
Renville		660	27,659	12,212	503,299	41.2	31,232	992,926	31.8	41,203	1,694,060	41.1	60,060	2,319,684	38.6
Rice		125,545	348,543	12,726	507,522	39.9	30,876	1,014,026	32.8	40,063	1,465,130	36.6	33,967	1,250,004	36.8
Rock			600	7,974	246,924	31.0	25,842	577,593	22.4	34,433	1,167,290	33.9	63,464	2,082,469	32.8
Roseau										3,276	94,790	28.9	11,650	298,330	25.6
Saint Louis		343		349	11,856	34.0	265	5,043	19.0	259	4,890	18.9	1,008	31,069	30.8
Scott		57,352	165,247	6,014	266,166	44.3	13,199	503,770	38.2	15,251	569,650	37.4	15,680	601,878	38.4
Sherburne		12,957	17,797	1,618	49,380	30.5	11,585	240,851	20.8	7,917	187,900	23.7	15,347	445,734	29.0
Sibley		16,660	221,416	10,541	459,239	43.6	18,013	796,985	44.2	22,432	946,220	42.2	25,078	988,002	39.4
Stearns		49,369	447,193	19,559	728,996	37.3	36,235	1,033,753	28.5	42,508	1,449,370	34.1	72,695	2,694,415	37.1
Steele		30,084	230,421	13,044	512,287	39.3	24,560	711,438	29.0	27,524	801,590	29.1	21,057	657,586	31.2
Stevens			3,234	7,682	304,007	39.6	16,440	509,780	31.0	27,464	774,050	28.2	40,463	1,402,682	34.7
Swift				8,037	304,302	37.9	21,777	644,390	29.6	34,730	1,089,070	31.4	53,648	1,861,317	34.7
Todd		1,260	18,012	3,396	113,854	33.5	9,372	197,638	21.1	12,454	385,770	31.0	25,804	722,298	28.0
Toombs															
Traverse				1,016	38,446	37.8	12,062	374,924	31.1	26,237	702,330	26.8	39,887	1,346,148	33.8
Wabasha	1,000	110,550	669,410	18,194	744,653	40.9	35,364	1,416,965	40.1	33,762	1,203,190	35.6	30,960	1,116,886	36.1
Wadena				480	17,924	37.3	4,452	66,927	15.0	5,315	109,050	20.5	11,586	164,461	14.2
Wahnahta															
Waseca		10,932	208,243	11,151	405,653	36.4	17,539	535,909	30.6	16,434	529,410	32.2	15,352	493,112	32.1
Washington	23,262	143,466	267,086	8,928	343,392	38.5	29,635	1,160,480	39.2	29,963	1,033,510	34.5	33,155	1,174,069	35.4
Watonwan			46,068	6,387	191,548	30.0	22,660	796,554	35.2	30,741	1,016,960	33.1	47,116	1,574,090	33.4
Wilkin			4,425	1,109	39,147	35.3	12,803	309,656	24.2	31,211	876,210	28.1	50,049	1,243,065	24.8
Winona		145,830	598,871	19,947	795,624	39.9	36,664	1,530,805	41.8	39,412	1,313,850	33.3	35,589	1,169,273	34.8
Wright		30,339	97,282	7,436	292,303	39.3	14,397	541,708	37.6	15,881	630,910	39.7	19,016	759,700	40.0
Yellow Medicine				4,262	193,124	45.3	17,864	439,608	24.6	27,748	1,189,950	42.9	61,888	2,174,813	35.1
Indian Reservations										4,398	100,490	22.8			
Totals for the State	30,582	2,176,002	10,678,261	617,469	23,382,158	37.9	1,579,258	49,958,791	31.6	2,201,325	74,054,150	33.6	2,977,208	93,897,717	31.5

TABLE XV — Acreage and Production of Corn in Minnesota by Counties, 1850-1910

	1850	1860	1870	1880			1890			1900			1910		
Counties	Bushels	Bushels	Bushels	Area, acres	Production, bushels	Bushels per acre	Area, acres	Production, bushels	Bushels per acre	Area, acres	Production, bushels	Bushels per acre	Area, acres	Production, bushels	Bushels per acre
Aitkin			38	17	515	30.3	86	2,675	31.1	489	17,860	36.5	924	30,167	32.6
Anoka		40,411	36,838	4,496	121,995	27.1	8,868	278,951	31.5	11,135	307,300	27.6	12,076	375,378	31.1
Becker			330	228	9,353	41.0	253	7,678	30.4	1,300	38,510	29.6	3,126	97,115	31.1
Beltrami							1	2	2.0	172	4,240	24.7	589	19,631	33.3
Benton	160	6,005	5,036	1,081	29,573	27.4	4,209	85,635	20.3	6,732	162,690	24.2	10,056	304,470	30.3
Big Stone				746	13,203	17.7	2,244	49,985	22.3	11,270	273,700	24.3	13,934	441,405	31.7
Blue Earth		72,070	198,060	21,636	689,835	31.9	42,319	1,286,275	30.4	44,214	1,697,760	38.4	67,157	2,532,182	37.7
Breckenridge															
Brown		29,332	34,525	9,874	335,055	33.9	16,417	497,446	30.3	20,797	691,150	33.2	44,738	1,750,881	39.1
Buchanan															
Carlton				50	2,281	45.6	8	213	26.6	73	2,220	30.4	49	1,419	29.0
Carver		78,072	122,140	7,405	298,772	40.3	12,987	412,100	31.7	16,929	713,150	42.1	18,601	845,214	45.4
Cass			330				425	10,870	25.6	2,071	50,500	24.4	2,393	64,066	26.8
Chippewa			3,550	2,080	65,853	31.7	4,486	103,374	23.0	19,022	497,750	26.2	35,599	1,147,639	32.2
Chisago		20,697	13,603	1,738	45,435	26.1	2,971	107,583	36.2	4,210	130,980	31.1	6,060	211,416	34.9
Clay				70	1,784	25.5	118	2,283	19.4	817	23,650	28.9	2,345	72,451	30.9
Clearwater													171	5,560	32.5
Cook															
Cottonwood		70	225	4,181	103,297	24.7	6,165	103,253	16.7	24,296	693,260	28.5	50,891	1,737,431	34.1
Crow Wing			3,285	145	5,002	34.5	1,918	55,815	29.1	3,253	91,200	28.0	5,224	135,263	25.9
Dakota		143,842	210,286	14,673	467,135	31.8	22,811	709,987	31.1	21,985	738,980	33.6	29,042	927,323	31.9
Dodge		66,678	81,277	8,105	294,624	36.4	14,316	379,247	26.5	20,423	736,960	36.1	23,214	742,211	32.0
Douglas		1,065	6,570	1,278	50,991	39.9	2,485	76,816	30.9	6,593	214,870	32.6	8,927	308,805	34.6
Faribault		18,425	137,496	21,277	733,330	34.5	35,543	798,641	22.5	43,356	1,625,670	37.5	66,798	2,481,412	37.1
Fillmore		433,895	389,956	27,724	970,818	35.0	54,247	1,759,139	32.4	63,073	2,530,050	40.1	57,507	1,913,779	33.3
Freeborn		61,965	134,638	14,537	532,514	36.6	41,429	773,043	18.7	40,363	1,590,750	39.4	51,385	1,761,670	34.3
Goodhue		124,686	209,790	16,846	586,798	34.8	35,824	1,018,182	28.4	25,622	922,140	36.0	27,267	951,862	34.9
Grant			100	155	5,847	37.7	556	14,910	26.8	3,120	77,450	24.8	9,386	272,798	29.1
Hennepin		222,684	259,418	16,488	594,159	36.0	22,337	808,199	36.2	24,213	811,040	33.5	23,782	995,159	41.8
Houston		143,825	249,761	22,692	822,763	36.3	35,445	1,191,986	33.6	35,710	1,306,150	36.6	30,816	1,215,563	39.4
Hubbard							239	5,742	24.0	1,790	42,400	23.7	4,014	106,044	26.4
Isanti		3,460	8,699	2,078	58,877	28.3	5,835	144,005	24.7	5,877	159,700	27.2	7,568	217,530	28.7
Itasca	90						4	132	33.0	53	1,340	25.3	88	3,617	41.1
Jackson		485	6,405	4,040	105,279	26.1	11,493	241,286	21.0	43,168	1,207,700	28.0	66,636	2,303,976	34.6
Kanabec		800	100	30	896	29.9	89	2,276	25.6	410	13,070	31.9	1,226	40,129	32.7
Kandiyohi		1,490	488	2,313	91,671	39.6	4,747	95,277	20.1	13,423	379,950	28.3	30,730	900,407	29.3
Kittson										6	210	35.0	1,435	30,118	21.0
Koochiching													3	55	18.3
Lac qui Parle				2,233	57,445	25.7	9,485	204,941	21.6	30,565	895,970	29.3	45,833	1,480,031	32.3
Lake															
Le Sueur		162,511	264,288	15,035	595,588	39.6	26,809	809,245	30.2	27,637	1,052,140	38.1	32,047	1,253,738	39.1
Lincoln				1,055	19,199	18.2	3,339	38,945	11.7	17,473	415,790	23.8	19,211	523,670	27.3
Lyon				4,091	103,464	25.3	10,134	185,378	18.3	35,011	950,450	27.1	52,656	1,553,976	29.5
McLeod		13,550	48,381	5,802	269,739	46.5	10,757	360,067	33.5	17,409	680,370	39.1	24,024	937,430	39.0
Mahnomen													100	3,003	30.0
Mankahta															
Manomin		6,715													
Marshall				17	540	31.8	12	210	17.5	79	2,340	29.6	763	19,423	25.5
Martin		1,775	39,149	10,181	312,235	30.7	25,226	635,073	25.2	53,191	1,685,860	31.7	79,370	2,936,289	37.0
Meeker		11,723	28,974	4,459	166,625	37.4	9,050	250,478	27.7	15,028	480,000	31.9	23,991	841,327	35.1
Mille Lacs		655	9,572	658	23,669	36.0	1,557	38,712	24.9	2,925	91,290	31.2	2,659	89,661	33.7
Monongalia		1,655	4,930												
Morrison		1,345	9,345	1,318	37,350	28.3	6,362	192,261	30.2	12,073	297,810	24.7	16,036	467,967	29.2
Mower		47,182	118,771	13,145	423,113	32.2	23,470	534,906	22.8	37,579	1,398,630	37.2	41,686	1,287,543	30.9
Murray		110	720	2,439	56,867	23.3	4,111	68,007	16.5	36,944	1,002,550	27.1	53,820	1,510,531	28.1
Nicollet		53,197	83,256	8,628	325,918	37.8	16,338	476,196	29.1	21,572	880,340	40.8	28,790	1,148,333	39.9
Nobles				5,894	160,334	27.2	14,397	258,168	17.9	57,445	1,675,130	29.2	75,190	2,191,650	29.1
Norman							143	2,544	17.8	450	12,790	28.4	2,259	63,947	28.3
Olmsted		206,991	340,223	15,449	568,150	36.8	34,491	1,012,075	29.3	38,128	1,402,060	36.8	43,120	1,230,593	28.5
Otter Tail		3,320	942	2,204	62,568	28.4	7,024	204,860	29.2	19,551	535,520	27.4	30,983	986,681	31.8
Pembina	60														
Pennington													168	5,815	34.6
Pierce															
Pine		650	110	28	1,150	41.1	208	6,240	30.0	1,259	35,200	28.0	3,037	86,671	28.5
Pipestone				928	16,914	18.2	4,725	55,482	11.7	22,710	598,600	26.4	34,039	917,431	27.0
Polk		2,350		117	3,627	31.0	153	4,100	26.8	575	15,020	26.1	2,903	96,890	33.4
Pope			1,925	1,009	36,785	36.5	2,609	74,748	28.7	6,849	201,760	29.5	11,504	325,999	28.3
Ramsey	1,615	29,271	38,020	1,675	58,360	34.8	1,726	62,560	36.2	2,603	89,140	34.2	3,182	119,596	37.6
Red Lake										159	4,420	27.8	614	20,799	33.9
Redwood			2,240	4,660	122,527	26.3	10,256	248,695	24.2	33,696	1,088,290	32.3	66,313	2,397,090	36.1
Renville		1,320	6,537	6,532	233,371	35.7	14,862	385,930	26.0	37,496	1,118,950	29.8	60,368	2,124,394	35.2
Rice		168,092	227,931	11,524	405,990	35.2	23,437	659,494	28.1	24,366	852,440	35.0	28,682	981,293	34.2
Rock			400	5,551	173,158	31.2	17,534	370,574	21.1	44,166	1,491,360	33.8	60,051	2,105,071	35.1
Roseau										26	380	14.6	148	4,424	23.1
Saint Louis		10								29	990	34.1	84	3,026	36.0
Scott		88,789	186,012	8,593	303,475	35.3	15,127	508,274	33.6	16,720	666,670	39.9	16,911	671,422	39.7
Sherburne		18,199	37,006	5,365	143,408	26.7	16,783	314,451	18.7	21,343	568,550	26.6	21,458	582,779	27.2

TABLE XV—Acreage and Production of Corn in Minnesota by Counties, 1850-1910—*Continued*

Counties	1850	1860	1870	1880			1890			1900			1910		
	Bushels	Bushels	Bushels	Area, acres	Production, bushels	Bushels per acre	Area, acres	Production, bushels	Bushels per acre	Area, acres	Production, bushels	Bushels per acre	Area, acres	Production, bushels	Bushels per acre
Sibley		49,180	142,060	7,226	247,617	34.3	15,026	490,700	32.7	24,025	821,040	34.2	32,296	1,229,667	38.1
Stearns		41,880	78,627	8,883	274,770	30.9	14,326	327,490	22.9	26,696	802,710	30.1	38,167	1,215,007	31.8
Steele		54,043	82,040	9,461	329,460	34.8	23,794	534,704	22.5	20,459	723,100	35.3	26,316	851,953	32.4
Stevens			235	338	11,632	34.4	1,137	29,187	25.7	8,235	201,780	24.5	12,415	326,935	26.3
Swift				1,809	46,768	25.9	3,421	90,394	26.4	12,452	362,730	29.1	25,168	790,078	31.4
Todd		1,385	3,814	1,191	38,025	31.9	3,822	116,773	30.6	10,709	303,170	28.3	14,111	448,403	31.8
Toombs															
Traverse			300	404	6,730	16.7	1,186	28,842	24.3	8,792	173,440	19.7	13,769	400,533	29.1
Wabasha	1,855	144,523	312,697	13,949	488,236	35.0	33,467	985,757	29.5	25,205	865,330	34.3	25,069	856,271	34.2
Wadena			100	232	6,685	28.8	1,162	32,941	28.3	6,073	150,780	24.8	7,753	214,186	27.6
Wahnahta	1,115														
Waseca		42,579	98,478	9,183	292,790	31.9	19,669	496,232	25.2	22,584	879,110	38.9	30,727	1,075,768	35.0
Washington	11,830	99,334	113,650	7,388	255,110	34.5	13,967	478,574	34.3	12,593	384,170	30.5	14,823	586,125	39.5
Watonwan			6,391	5,595	131,999	23.6	13,889	364,554	26.2	25,544	865,290	33.9	42,270	1,637,835	38.7
Wilkin				52	1,707	32.8	570	12,982	22.8	2,562	64,770	25.3	7,744	236,344	30.5
Winona		161,115	273,477	15,289	546,767	35.8	26,536	898,538	33.9	26,704	943,380	35.3	28,802	922,948	32.0
Wright		58,546	69,572	10,871	371,235	34.1	20,794	641,982	30.9	30,156	1,006,820	33.4	37,207	1,509,337	40.6
Yellow Medicine				2,293	62,986	27.5	7,924	181,176	22.9	27,459	756,690	27.6	51,674	1,683,022	32.6
Indian Reservations										310	7,450	24.0			
Totals for the State	16,725	2,941,952	4,743,117	438,737	14,831,741	33.8	901,690	24,696,446	27.4	1,441,580	47,256,920	32.8	2,004,068	67,897,051	33.9

TABLE XVI.—Acreage and Production of Barley in Minnesota by Counties, 1850-1910

Counties	1850	1860	1870	1880			1890			1900			1910		
	Bushels	Bushels	Bushels	Area, acres	Production, bushels	Bushels per acre	Area, acres	Production, bushels	Bushels per acre	Area, acres	Production, bushels	Bushels per acre	Area, acres	Production, bushels	Bushels per acre
Aitkin							13	277	21.3	61	1,480	24.3	141	2,458	17.4
Anoka		223	481	97	1,370	14.1	10	100	10.0	252	6,540	26.0	613	16,604	27.1
Becker				454	12,454	27.4	1,047	18,854	18.0	1,651	44,660	27.1	8,501	182,660	21.5
Beltrami										194	3,840	19.9	502	8,945	17.8
Benton			314	53	1,102	20.8	198	4,202	21.2	347	6,470	18.6	3,521	96,725	27.5
Big Stone				240	5,496	22.9	790	19,124	24.2	2,078	51,770	24.9	23,130	489,512	21.1
Blue Earth		476	35,146	3,029	56,398	18.6	4,148	110,951	26.7	5,210	162,090	31.1	12,580	280,765	22.3
Breckenridge															
Brown		648	24,448	1,367	29,047	21.2	1,188	26,960	22.7	2,656	75,880	28.6	12,336	262,571	21.3
Buchanan															
Carlton		128					5	72	14.4	52	950	18.3	369	7,580	20.5
Carver		5,317	33,987	1,479	48,084	32.5	622	18,696	30.1	1,018	34,440	33.8	6,439	198,814	30.9
Cass										190	4,010	21.1	563	8,771	15.6
Chippewa			450	521	12,527	24.0	1,356	30,051	22.2	6,208	184,120	29.7	23,921	509,228	21.3
Chisago		636	1,848	201	6,311	31.4	156	3,422	21.9	402	11,980	29.8	1,332	40,804	30.6
Clay				495	13,606	27.5	4,723	77,796	16.5	6,806	174,640	25.7	28,933	640,693	22.1
Clearwater													1,654	32,854	19.9
Cook													2	70	35.0
Cottonwood				2,088	38,972	18.7	4,509	84,036	18.6	15,449	418,540	27.1	25,322	490,343	19.4
Crow Wing							50	976	19.5	180	2,950	16.4	621	10,217	16.5
Dakota		5,248	33,877	2,583	67,892	26.3	691	19,940	28.9	8,103	233,070	28.8	22,613	563,989	24.9
Dodge		7,749	47,150	5,771	153,873	26.7	11,666	309,247	26.5	28,654	802,590	28.0	31,084	702,627	22.6
Douglas		45	3,934	812	20,761	25.6	878	21,266	24.2	2,408	71,090	29.5	15,609	413,066	26.5
Faribault		12	25,786	2,686	59,238	22.1	6,454	157,743	24.4	7,247	195,340	27.0	10,379	217,206	20.9
Fillmore		16,104	108,335	6,684	176,037	26.3	17,254	551,927	32.0	43,890	1,304,050	29.7	53,171	1,352,663	25.4
Freeborn		381	7,188	3,015	72,647	24.1	6,849	172,089	25.1	13,521	364,020	26.9	16,065	335,050	20.9
Goodhue		7,165	81,878	11,062	324,059	29.3	44,923	1,330,951	29.6	72,492	1,909,230	26.3	80,924	1,889,142	23.3
Grant			25	304	8,805	29.0	1,985	52,928	26.7	3,462	88,240	25.5	25,232	573,654	22.7
Hennepin		1,729	11,326	317	9,168	28.9	389	10,922	28.1	708	20,650	29.2	4,284	129,278	30.2
Houston		3,351	31,182	2,556	60,141	23.5	1,031	30,334	29.4	4,535	129,280	28.5	22,555	566,612	25.1
Hubbard							147	2,828	19.2	109	1,870	17.2	292	4,558	15.6
Isanti		20	57	35	823	23.5	17	284	16.7	119	2,660	22.4	453	11,752	25.9
Itasca										7	120	17.1	43	923	21.5
Jackson			392	1,479	22,159	15.0	9,929	172,473	17.4	34,004	871,910	25.6	27,927	524,567	18.8
Kanabec				13	319	21.3	14	175	12.5	98	2,340	23.9	508	11,586	22.8
Kandiyohi			651	703	18,068	25.7	932	19,680	21.1	6,632	193,440	29.2	31,011	729,589	23.5
Kittson				10	240	24.0	8,697	150,340	17.3	14,688	377,540	25.7	35,109	635,120	18.1
Koochiching													25	533	21.3
Lac qui Parle				470	11,735	25.0	1,101	24,977	22.7	6,260	209,300	33.4	43,895	966,108	22.0

TABLE XVI—Acreage and Production of Barley in Minnesota by Counties, 1850-1910—*Continued*

Counties	1850	1860	1870	1880			1890			1900			1910		
	Bushels	Bushels	Bushels	Area, acres	Production, bushels	Bushels per acre	Area, acres	Production, bushels	Bushels per acre	Area, acres	Production, bushels	Bushels per acre	Area, acres	Production, bushels	Bushels per acre
Lake			20				4	130	32.5	5	120	24.0	1	16	16.0
Le Sueur		1,043	18,692	452	11,910	26.4	518	15,928	30.7	1,167	40,230	34.5	4,762	132,029	27.7
Lincoln				279	6,925	24.8	1,489	15,746	10.6	11,954	335,650	28.1	34,145	709,969	20.8
Lyon				1,346	30,569	22.7	1,239	22,052	17.8	13,706	415,750	30.3	36,604	640,371	17.5
McLeod		423	10,914	772	21,322	27.6	928	23,896	25.8	4,057	134,650	33.2	11,662	333,716	28.6
Mahnomen													1,597	23,830	14.9
Mankahta															
Manomin															
Marshall				5	56	11.2	7,811	163,671	21.0	15,432	368,600	23.9	41,591	856,862	20.6
Martin			5,262	1,455	28,689	19.7	5,139	111,271	21.7	11,419	339,810	29.8	5,105	99,193	19.4
Meeker		250	10,492	886	24,988	28.2	342	8,666	25.3	4,192	127,880	30.5	20,571	547,188	26.6
Mille Lacs			96	42	850	20.2	34	847	24.9	292	7,910	27.1	1,097	33,771	30.8
Monongalia			4,766												
Morrison			756	243	8,464	34.8	336	7,141	21.3	604	13,630	22.6	3,631	88,933	24.5
Mower		837	39,975	9,382	257,342	27.4	20,074	541,561	27.0	29,577	821,300	27.8	23,505	552,293	23.5
Murray			200	1,049	20,539	19.6	3,795	53,729	14.2	27,808	832,350	29.9	40,224	660,400	16.4
Nicollet		3,507	32,411	1,754	50,624	28.9	960	29,129	30.3	2,784	95,640	34.4	7,060	188,333	26.7
Nobles				1,116	12,762	11.4	10,086	122,692	12.2	43,724	1,231,600	28.2	29,719	483,145	16.3
Norman							3,691	56,051	15.2	8,781	202,820	23.1	31,751	683,949	21.5
Olmsted		9,932	114,056	12,603	344,962	27.4	36,154	1,152,809	31.9	70,932	2,032,280	28.7	63,428	1,379,796	21.8
Otter Tail			37	946	23,568	24.9	3,581	70,918	19.8	4,921	130,340	26.5	31,122	717,080	23.0
Pembina															
Pennington													6,396	115,024	18.0
Pierce															
Pine							21	328	15.6	174	3,740	21.5	740	16,218	21.9
Pipestone				146	2,660	18.2	2,992	18,082	6.0	34,386	919,670	26.7	42,707	797,416	18.7
Polk		200		582	15,544	26.7	16,474	300,439	18.2	28,194	682,230	24.2	53,268	1,173,579	22.0
Pope			2,239	423	11,670	27.6	990	23,149	23.4	2,908	81,440	28.0	15,036	379,889	25.3
Ramsey	20	1,472	9,015	203	4,505	22.2	12	390	32.5	778	27,770	35.7	608	18,323	30.1
Red Lake										3,149	60,150	19.1	4,269	82,563	19.3
Redwood			470	1,559	29,337	18.8	1,173	25,019	21.3	10,011	316,590	31.6	21,131	419,775	19.9
Renville			3,610	1,353	33,541	24.8	2,441	57,689	23.6	12,546	379,660	30.3	36,286	864,210	23.8
Rice		12,208	36,773	890	22,789	25.6	1,603	31,916	19.9	4,768	141,360	29.6	16,570	468,340	28.3
Rock				1,762	28,804	16.3	12,864	189,447	14.7	49,788	1,405,780	28.2	38,235	663,099	17.3
Roseau										2,620	58,340	22.3	8,201	156,467	19.1
Saint Louis		137		115	2,287	19.9	6	83	13.8	77	1,370	17.4	186	3,941	21.2
Scott		2,544	15,667	360	9,846	27.4	324	8,241	25.4	1,424	46,300	32.5	4,240	115,500	27.2
Sherburne		576	645	43	1,102	25.6	32	419	13.1	33	830	25.2	395	10,052	25.4
Sibley		861	34,545	1,599	47,743	29.9	1,973	59,869	30.3	5,183	160,990	31.1	13,225	341,620	25.8
Stearns		1,650	23,856	1,518	39,259	25.9	1,296	27,486	21.2	5,197	148,080	28.5	23,597	654,100	27.7
Steele		1,041	12,709	869	21,585	24.8	4,792	93,784	19.6	4,872	146,370	30.0	11,479	282,883	24.6
Stevens			50	693	21,135	30.5	1,075	26,537	24.7	3,638	94,650	26.0	25,122	560,456	22.3
Swift				885	19,177	21.7	1,221	28,428	23.3	5,355	150,580	28.1	30,906	673,650	21.8
Todd			1,065	132	3,170	24.0	314	5,754	18.3	1,058	24,540	23.2	7,624	181,685	23.8
Toombs															
Traverse				74	2,045	27.6	2,025	56,845	28.1	1,950	45,510	23.3	25,484	552,934	21.7
Wabasha		4,183	80,125	10,343	282,962	27.4	34,146	990,512	29.0	69,183	1,902,250	27.5	67,990	1,682,961	24.8
Wadena				52	1,699	32.7	114	1,618	14.2	315	6,600	21.0	1,115	17,079	15.3
Wahnahta															
Waseca		136	8,754	912	20,106	22.0	1,183	23,427	19.8	2,507	72,790	29.0	7,196	169,011	23.5
Washington	1,196	19,646	42,155	2,506	67,693	27.0	4,310	114,379	26.5	10,540	287,470	27.3	13,761	385,627	28.0
Watonwan			2,125	819	13,927	17.0	1,689	39,197	23.2	2,667	66,880	25.1	5,032	101,692	20.2
Wilkin			139	110	3,006	27.3	3,324	67,875	20.4	4,857	121,020	24.9	20,158	388,965	19.3
Winona		9,329	64,311	6,368	168,662	26.5	33,075	1,067,797	32.3	57,875	1,532,950	26.5	65,280	1,559,815	23.9
Wright		361	7,639	470	14,434	30.7	297	8,036	27.1	2,104	62,380	29.6	11,258	335,546	29.8
Yellow Medicine				378	9,375	24.8	791	14,079	17.8	7,923	263,870	33.3	37,032	716,842	19.4
Indian Reservations										719	10,420	14.5			
Totals for the State	1,216	*119,568	1,032,024	116,020	2,972,965	25.6	358,510	9,100,683	25.4	877,845	24,314,240	27.7	1,573,761	34,927,773	22.2

* Total as given in census (1860, p. 82) 109,668.
Correct sum of county items........119,568.

TABLE XVII.—Acreage and Production of Rye in Minnesota by Counties, 1850-1910

Counties	1850	1860	1870	1880			1890			1900			1910		
	Bushels	Bushels	Bushels	Area, acres	Production, bushels	Bushels per acre	Area, acres	Production, bushels	Bushels per acre	Area, acres	Production, bushels	Bushels per acre	Area, acres	Production, bushels	Bushels per acre
Aitkin							2	60	30.0	34	610	17.9	23	332	14.4
Anoka		315	4,244	872	10,624	12.2	1,589	27,142	17.1	8,252	99,600	12.1	5,500	77,062	14.0
Becker				35	795	22.7	66	864	13.1	66	740	11.2	599	8,153	13.6
Beltrami													55	817	14.9
Benton		187	248	260	4,066	15.6	1,125	16,432	14.6	1,821	18,650	10.2	9,393	133,658	14.2
Big Stone				89	761	8.6	16	233	14.6	9	120	13.3	1,648	23,382	14.2
Blue Earth		2,635	3,559	244	4,959	20.3	295	6,698	22.7	817	16,490	20.2	1,587	25,896	16.3
Breckenridge															
Brown		1,097	770	269	4,856	18.1	84	1,643	19.6	615	11,380	18.5	8,727	154,559	17.7
Buchanan															
Carlton		38		37	650	17.6	7	87	12.4	186	3,240	17.4	77	1,623	21.1
Carver		9,463	4,031	116	2,610	22.5	2,104	55,914	26.6	2,362	61,520	26.0	1,888	43,614	23.1
Cass													1,056	13,543	12.8
Chippewa				6	128	21.3	4	135	33.8	407	4,800	11.8	548	8,963	16.4
Chisago		5,260	4,331	267	3,957	14.8	1,583	31,261	19.7	21	420	20.0	2,382	32,031	13.4
Clay							11	55	5.0	2,328	32,150	13.8	2,026	33,271	16.4
Clearwater													32	490	15.3
Cook										66	1,030	15.6			
Cottonwood				175	2,811	16.1	93	1,249	13.4	1,995	31,450	15.8	3,330	45,483	13.7
Crow Wing			400	28	645	23.0	17	222	13.1	536	6,480	12.1	1,146	16,941	14.8
Dakota		5,348	4,664	201	2,966	14.8	2,845	54,917	19.3	14,003	200,140	14.3	19,967	327,381	16.4
Dodge		496	330	35	578	16.5	476	9,046	19.0	1,082	19,240	17.8	328	5,740	17.5
Douglas		25	593	178	3,609	20.3	59	1,193	20.2	196	3,230	16.5	3,148	70,998	22.6
Faribault			266	62	1,003	16.2	50	1,064	21.3	141	1,690	12.0	188	2,404	12.8
Fillmore		3,014	426	183	2,603	14.2	1,345	25,888	19.2	968	16,250	16.8	482	7,600	15.8
Freeborn		1,308	316	181	3,107	17.2	139	2,619	18.8	30	460	15.3	232	4,010	17.3
Goodhue		3,215	2,196	183	3,309	18.1	10,050	228,333	22.7	10,855	187,960	17.3	16,546	293,889	17.8
Grant			12				35	399	11.4	27	290	10.7	254	4,156	16.4
Hennepin		18,214	9,411	402	6,603	16.4	1,734	39,286	22.7	3,672	61,340	16.7	1,866	34,938	18.7
Houston		528	973	658	9,733	14.8	1,439	21,751	15.1	1,312	22,620	17.2	304	5,351	17.6
Hubbard							148	1,368	9.2	199	2,240	11.3	3,082	39,121	12.7
Isanti			2,523	716	10,325	14.4	3,173	56,509	17.8	4,958	64,520	13.0	4,624	60,328	13.0
Itasca										3	30	10.0	4	50	12.5
Jackson			10	141	1,945	13.8	171	2,310	13.5	569	6,380	11.2	1,905	26,548	13.9
Kanabec							226	3,064	13.6	169	2,880	17.0	144	2,547	17.7
Kandiyohi				71	1,217	17.1	16	420	26.3	130	2,070	15.9	958	15,828	16.5
Kittson							12	348	28.3	78	1,220	15.6	1,941	19,835	10.2
Koochiching															
Lac qui Parle				14	274	19.6				61	1,280	21.0	3,491	59,634	17.1
Lake							1	30	30.0						
Le Sueur		7,118	622	146	3,234	22.2	293	6,873	23.5	699	13,280	19.0	736	15,167	20.6
Lincoln							33	460	13.9	929	17,520	18.9	2,490	33,468	13.4
Lyon				16	224	14.0	8	116	14.5	157	2,190	13.9	4,593	62,534	13.6
McLeod		290	667	131	3,410	26.0	202	4,838	24.0	3,473	83,860	24.1	2,926	64,725	22.1
Mahnomen															
Mankahta													95	995	10.5
Manomin		65													
Marshall							156	2,211	14.2	309	5,400	17.5	1,869	27,624	14.8
Martin		30	12	65	947	14.6	39	676	17.3	832	10,690	12.8	394	5,537	14.1
Meeker		1,081	619	131	2,632	20.1	302	6,149	20.4	1,974	44,470	22.5	7,188	142,377	19.8
Mille Lacs		10	422	172	1,850	10.8	259	4,397	17.0	1,177	19,590	16.6	290	5,846	20.2
Monongalia			68												
Morrison		5	867	461	4,903	10.6	1,113	15,502	13.9	2,303	33,980	14.8	11,507	183,350	15.9
Mower		193	55	185	2,471	13.4	228	4,237	18.6	49	590	12.0	213	3,025	14.2
Murray				18	214	11.9	17	176	10.4	241	3,300	13.7	4,539	62,995	13.9
Nicollet		1,692	648	219	5,822	26.6	353	9,350	26.5	1,861	27,960	15.0	2,025	41,057	20.3
Nobles				186	1,501	8.1	305	4,224	13.8	445	5,800	13.0	299	3,722	12.4
Norman							56	530	9.5	150	2,120	14.1	2,824	47,732	16.9
Olmsted		1,374	495	35	496	14.2	1,490	31,194	20.9	674	11,390	16.9	962	14,817	15.4
Otter Tail		240	20	581	10,560	18.2	863	13,762	15.9	1,216	18,650	15.3	15,070	246,153	16.3
Pembina															
Pennington													820	11,492	14.0
Pierce															
Pine		75	30				28	532	19.0	346	5,530	16.0	497	5,961	12.0
Pipestone				55	603	11.0	313	2,368	7.6	324	3,330	10.3	417	6,399	15.3
Polk		200		63	1,424	22.6	231	2,169	9.4	425	6,990	16.4	7,707	133,439	17.3
Pope				100	2,318	23.2	2	44	22.0	179	2,420	13.5	1,165	19,655	16.9
Ramsey		1,020	1,528	89	1,490	16.7	67	1,595	23.8	1,055	19,940	18.9	721	12,246	17.0
Red Lake										170	2,170	12.8	543	8,051	14.8
Redwood				222	1,333	6.0	10	170	17.0	640	10,710	16.7	7,009	122,021	17.4
Renville		240	511	50	628	12.6	17	362	21.3	1,680	27,650	16.5	3,031	57,848	19.1
Rice		4,348	1,489	65	1,240	19.1	2,157	40,885	19.0	1,068	15,000	14.0	2,039	41,712	20.5
Rock				662	8,369	12.6	552	7,777	14.1	434	6,090	14.0	570	8,697	15.3
Roseau										141	2,620	18.6	131	2,196	16.8
Saint Louis		42		190	4,069	21.4	6	108	18.0	85	1,480	17.4	130	3,349	25.8
Scott		6,432	12,374	332	5,484	16.5	4,247	84,458	19.9	4,354	81,490	18.7	7,541	135,341	17.9
Sherburne		934	1,518	1,283	15,829	12.3	4,020	62,618	15.6	10,761	116,480	10.8	10,420	130,777	12.6

TABLE XVII—Acreage and Production of Rye in Minnesota by Counties, 1850-1910—*Continued*

	1850	1860	1870	1880			1890			1900			1910		
Counties	Bushels	Bushels	Bushels	Area, acres	Production, bushels	Bushels per acre	Area, acres	Production, bushels	Bushels per acre	Area, acres	Production, bushels	Bushels per acre	Area, acres	Production, bushels	Bushels per acre
Sibley		4,287	2,261	103	3,361	32.6	535	13,345	24.9	2,136	39,550	18.5	2,548	51,038	20.0
Stearns		12,859	3,262	892	15,987	17.9	1,138	18,597	16.3	2,939	45,910	15.6	14,136	259,532	18.4
Steele		886	306	31	763	24.6	733	12,360	16.9	76	1,230	16.2	952	19,767	20.8
Stevens							9	212	23.5	7	70	10.0	174	2,657	15.3
Swift				88	1,738	19.8				162	2,010	12.4	3,623	49,192	13.6
Todd		20		743	12,464	16.8	211	2,791	13.2	953	15,760	16.5	9,321	163,472	17.5
Toombs															
Traverse							7	94	13.4				1,583	25,301	16.0
Wabasha	100	2,591	994	162	3,520	21.7	4,818	106,119	22.0	2,192	32,630	14.9	6,564	123,759	18.9
Wadena				56	1,296	23.1	519	7,894	15.2	626	6,320	10.1	5,665	71,697	12.7
Wahnahta															
Waseca		196	130	15	307	20.5	157	2,493	15.9	94	1,220	13.0	2,693	48,340	18.0
Washington	25	14,096	5,883	136	2,454	18.0	3,415	83,808	24.5	9,154	154,190	16.8	8,694	162,870	18.7
Watonwan			170	54	788	14.6	45	763	17.0	286	3,730	13.0	1,444	22,528	15.6
Wilkin				15	191	12.7	6	80	13.3	83	2,160	26.0	1,260	23,192	18.4
Winona		2,716	1,613	171	2,626	15.4	3,041	67,918	22.3	757	11,360	15.0	2,233	43,333	19.4
Wright		4,228	2,221	252	4,448	17.7	1,934	37,612	19.4	3,182	63,120	19.8	4,438	83,997	18.9
Yellow Medicine				16	117	7.3	19	256	13.5	74	1,130	15.3	997	14,863	14.9
Indian Reservations										29	550	19.0			
Totals for the State	125	121,411	78,088	13,614	215,245	15.8	62,869	1,252,663	19.9	118,869	1,866,150	15.7	266,567	4,426,028	16.6

TABLE XVIII—Acreage and Production of Potatoes in Minnesota by Counties, 1850-1910

	1850	1860	1870	1880	1890			1900			1910		
Counties	Bushels	Bushels	Bushels	Bushels	Area, acres	Production, bushels	Bushels per acre	Area, acres	Production, bushels	Bushels per acre	Area, acres	Production, bushels	Bushels per acre
Aitkin			440	1,525	225	42,542	189.1	487	48,386	99.4	1,157	150,759	130.3
Anoka		34,734	15,872	68,672	3,179	430,950	135.6	6,803	716,904	105.4	10,756	1,255,880	116.8
Becker			40	76,406	768	80,073	104.4	1,044	106,742	102.2	2,101	267,459	127.3
Beltrami					8	968	121.0	650	67,878	104.4	1,549	212,785	137.4
Benton	3,650	6,835	5,312	22,988	670	58,140	86.8	925	102,580	110.9	1,974	286,974	145.4
Big Stone				16,722	542	30,628	56.5	573	51,628	90.1	741	78,331	105.7
Blue Earth		543,223	65,393	150,021	2,244	269,796	120.2	2,518	243,004	96.5	1,891	213,787	113.1
Breckenridge													
Brown		25,614	24,566	81,160	955	84,820	88.8	1,188	91,019	76.6	1,080	126,438	117.1
Buchanan													
Carlton		630		20,672	120	22,808	190.1	577	57,442	99.6	1,559	239,715	153.8
Carver		97,211	54,207	84,572	1,376	134,857	98.0	1,139	121,269	106.5	1,188	145,356	122.4
Cass			900		100	11,770	117.7	539	53,087	98.5	1,079	125,267	116.1
Chippewa			158	24,092	485	46,634	96.2	735	75,891	103.3	967	113,644	117.5
Chisago		28,005	16,975	67,777	3,697	612,397	165.6	10,536	1,164,922	110.6	12,284	1,874,597	152.6
Clay			300	49,619	1,304	77,951	59.8	3,543	360,746	101.8	19,674	1,790,460	91.0
Clearwater											594	86,148	145.0
Cook				725	5	434	86.8	29	3,433	118.4	101	19,711	195.2
Cottonwood		140	245	30,202	562	28,257	50.3	651	56,628	87.0	958	94,394	98.5
Crow Wing			1,550	4,119	848	111,621	131.6	971	121,069	124.7	1,610	194,358	120.7
Dakota		138,436	93,387	239,481	4,766	598,257	125.5	4,207	404,170	96.1	5,062	629,503	124.4
Dodge		36,373	36,569	91,474	977	112,641	115.3	624	62,542	100.2	766	79,181	103.4
Douglas		3,100	36,884	86,101	1,000	93,246	93.2	1,317	136,295	103.5	1,532	178,466	116.5
Faribault		20,529	29,321	98,116	1,398	89,602	64.1	1,197	100,917	84.3	1,319	140,483	106.5
Fillmore		115,560	92,402	181,135	2,225	295,233	132.7	2,032	270,828	133.3	1,549	172,405	111.3
Freeborn		43,788	53,814	147,857	3,770	254,051	67.4	2,983	263,610	88.4	2,032	196,865	96.9
Goodhue		65,973	85,390	167,452	2,178	218,450	100.3	1,695	158,560	93.5	1,430	165,728	115.9
Grant			1,739	16,504	436	33,140	76.0	601	41,793	69.5	556	58,305	104.5
Hennepin		179,539	98,863	316,872	9,522	1,018,203	106.9	9,567	904,359	94.5	17,471	2,438,132	139.6
Houston		48,917	32,065	107,281	1,613	208,128	129.0	1,754	229,370	130.8	1,349	172,090	127.6
Hubbard					165	24,526	148.6	394	51,223	130.0	1,927	224,317	116.4
Isanti		4,295	11,544	49,207	3,683	530,143	143.9	13,283	1,425,233	107.3	16,798	2,150,573	128.0
Itasca	1,050				24	2,765	115.2	281	35,563	126.6	1,080	157,352	145.7
Jackson		555	7,637	32,352	752	48,723	64.8	958	88,640	92.5	1,172	125,161	106.8
Kanabec		1,520	150	4,545	177	21,098	119.2	1,152	108,283	94.0	2,652	394,169	148.6
Kandiyohi		1,135	5,586	42,963	724	51,051	70.5	832	76,428	91.9	1,376	133,838	97.3
Kittson				1,030	399	61,559	154.3	371	48,465	130.6	608	85,689	140.9
Koochiching											303	45,145	149.0
Lac qui Parle				23,806	723	47,798	66.1	1,101	110,641	100.5	1,464	159,504	109.0

TABLE XVIII—Acreage and Production of Potatoes in Minnesota by Counties, 1850-1910—*Continued*

Counties	1850	1860	1870	1880	1890			1900			1910		
	Bushels	Bushels	Bushels	Bushels	Area, acres	Production, bushels	Bushels per acre	Area, acres	Production, bushels	Bushels per acre	Area, acres	Production, bushels	Bushels per acre
Lake			650	1,025	9	1,965	218.3	14	1,635	116.8	157	21,171	134.8
Le Sueur		124,198	61,520	109,913	1,564	154,286	98.6	1,296	121,217	93.5	1,128	117,476	104.1
Lincoln				14,465	654	29,910	45.7	685	51,642	75.4	923	86,655	93.9
Lyon				39,745	756	46,173	61.1	871	77,035	88.4	980	88,037	89.8
McLeod		15,673	31,855	75,251	1,189	100,959	84.9	1,211	110,356	91.1	1,160	136,473	117.6
Mahnomen											161	17,586	109.2
Mankahta													
Manomin		7,065											
Marshall				2,290	733	91,719	125.1	828	93,885	113.4	1,071	158,864	147.9
Martin		1,130	25,094	48,298	958	64,283	67.1	1,131	95,586	84.5	1,496	175,074	117.0
Meeker		15,212	39,913	67,068	977	71,182	72.9	1,105	84,103	76.1	1,222	146,016	119.5
Mille Lacs		730	5,163	4,752	224	20,124	89.8	2,338	256,671	109.8	3,860	570,482	
Monongalia		2,176	22,158										
Morrison		5,464	13,668	45,660	1,292	143,593	111.1	1,907	164,056	86.0	3,861	461,863	119.6
Mower		2,176	63,244	142,644	2,276	212,307	93.3	3,767	381,751	101.3	2,519	231,528	91.9
Murray		285	855	18,240	572	31,777	55.6	990	87,695	88.6	1,279	108,859	85.1
Nicollet		55,580	36,158	104,937	1,022	112,189	109.8	960	101,538	105.8	868	97,739	112.6
Nobles				35,707	758	53,294	70.3	1,228	129,977	105.8	1,870	180,460	96.5
Norman					903	71,159	78.8	858	96,881	112.9	1,353	147,532	109.0
Olmsted		98,661	126,668	188,091	2,175	264,110	121.4	3,013	345,830	114.8	1,797	164,919	91.8
Otter Tail		2,450	8,784	146,354	2,753	289,013	105.0	3,688	340,711	92.4	6,195	728,975	117.7
Pembina													
Pennington											627	74,933	119.5
Pierce													
Pine		4,150	360	3,536	292	38,897	133.2	1,844	166,699	90.4	3,005	468,834	156.0
Pipestone				8,348	450	20,560	45.7	548	45,494	83.0	887	69,541	78.4
Polk		1,550		65,527	2,392	283,382	118.5	1,651	252,965	153.2	3,900	524,374	134.5
Pope			20,528	39,139	683	54,744	80.2	925	90,840	98.2	1,120	108,714	97.1
Ramsey		53,188	33,697	101,522	1,551	252,450	162.8	2,263	190,251	84.1	3,931	497,939	126.7
Red Lake								692	72,908	105.4	436	65,035	149.2
Redwood			1,880	35,980	802	63,944	79.7	1,047	108,458	103.6	1,608	182,910	113.8
Renville		2,856	14,761	78,460	1,296	116,277	89.7	1,336	118,619	88.8	1,762	177,492	100.7
Rice		86,224	57,862	128,769	2,030	209,376	103.1	1,624	146,202	90.0	1,411	150,742	106.8
Rock			480	26,350	641	48,262	75.3	1,094	121,474	111.0	2,748	220,880	80.4
Roseau								308	38,735	125.8	777	119,120	153.3
Saint Louis		2,517		24,011	336	50,665	150.8	721	75,378	104.5	2,378	355,537	149.5
Scott		78,360	39,292	98,313	1,249	106,180	85.0	1,179	99,482	84.4	1,033	105,268	101.9
Sherburne		14,290	17,987	29,969	1,255	106,602	84.9	2,801	273,022	97.5	9,908	963,073	97.2
Sibley		81,450	52,649	74,306	1,220	103,788	85.1	1,317	108,709	82.5	1,153	135,022	117.1
Stearns		65,039	120,865	184,307	2,506	182,150	72.7	3,217	295,706	91.9	3,938	486,540	123.6
Steele		34,495	36,025	95,870	1,507	175,314	116.3	1,252	115,688	92.4	1,342	138,390	103.1
Stevens			1,613	27,347	574	30,378	52.9	616	52,985	86.0	825	89,766	108.8
Swift				51,580	744	63,514	85.4	949	99,135	104.5	1,188	145,421	122.4
Todd		2,670	13,736	54,961	1,181	127,551	108.0	2,149	215,117	100.1	4,504	553,493	122.9
Toombs													
Traverse			400	6,608	404	28,255	69.9	558	43,044	77.1	815	84,545	103.7
Wabasha	7,105	85,051	97,700	117,573	2,155	280,604	130.2	1,854	220,083	118.7	1,618	198,128	122.5
Wadena			28	26,724	356	47,286	132.8	821	80,296	97.8	1,655	173,283	104.7
Wahnahta													
Waseca		25,841	30,092	80,564	1,338	128,339	95.9	1,134	94,537	83.4	1,039	107,100	103.1
Washington	9,340	88,513	45,686	108,643	3,324	431,908	129.9	3,856	363,273	94.2	5,797	758,162	130.8
Watonwan			11,171	27,063	558	39,051	70.0	548	52,418	95.7	662	69,430	104.9
Wilkin			8,390	8,048	452	22,775	50.4	623	56,961	91.4	2,537	247,160	97.4
Winona		86,328	79,074	183,705	2,909	366,626	126.0	3,152	226,455	71.8	2,531	308,444	121.9
Wright		77,051	51,748	121,072	2,534	210,010	82.9	2,348	217,240	92.5	3,595	476,389	132.5
Yellow Medicine				26,493	706	55,516	78.6	905	78,139	86.3	1,348	124,605	92.4
Indian Reservations								180	22,897	127.2			
Totals for the State	21,145	*2,516,485	1,943,063	5,184,676	105,880	11,155,707	105.4	146,659	14,643,327	99.8	223,692	26,802,948	119.8

* This represents the total of returns by counties; state total as given in census report, 2,565,485.

TABLE XIX.—Acreage and Production of Flaxseed in Minnesota by Counties, 1850-1910

Counties	1850	1860	1870	1880	1890			1900			1910		
	Bushels	Bushels	Bushels	Bushels	Area, acres	Production, bushels	Bushels per acre	Area, acres	Production, bushels	Bushels per acre	Area, acres	Production, bushels	Bushels per acre
Aitkin								1	10	10.0			
Anoka		1		327							6	40	6.7
Becker					719	6,095	8.5	6,525	75,340	11.5	4,979	36,590	7.3
Beltrami								193	1,700	8.8	314	2,311	7.4
Benton		1			9	86	9.6	71	790	11.1	817	7,987	9.8
Big Stone					629	6,492	10.3	11,323	119,900	10.6	9,024	91,648	10.2
Blue Earth				24,014	14,137	167,506	11.8	6,321	73,550	11.6	924	8,843	9.6
Breckenridge													
Brown		4	239	161	6,597	81,702	12.4	4,474	50,170	11.2	2,370	19,512	8.2
Buchanan													
Carlton													
Carver		5	2,714	2	3	32	10.7	39	460	11.8	42	408	9.7
Cass								13	60	4.6	48	301	6.3
Chippewa					3,094	23,796	7.7	13,035	124,210	9.5	3,903	34,502	8.8
Chisago								1	15	15.0	4	66	16.5
Clay					20	182	9.1	44,662	424,580	9.5	9,519	69,344	7.3
Clearwater											222	1,926	8.7
Cook													
Cottonwood					15,978	113,041	7.1	13,020	134,990	10.4	5,119	44,375	8.7
Crow Wing								2	14	7.0	145	825	7.2
Dakota		3	6,263	265	11,208	112,767	10.1	9,169	110,450	12.0	2,279	26,479	11.6
Dodge		6	401		14,304	146,326	10.2	10,527	117,210	11.1	8,456	89,524	10.6
Douglas					57	535	9.4	3,397	39,670	11.7	4,859	54,013	11.1
Faribault			4	17,044	11,514	113,809	9.9	7,932	76,510	9.6	1,366	12,262	9.0
Fillmore		6		38	9,859	108,685	11.0	15,767	179,150	11.4	5,528	61,103	11.1
Freeborn		2		1,817	2,355	20,715	8.8	13,020	125,190	9.6	2,165	20,462	9.5
Goodhue			204		5,806	61,366	10.6	12,110	151,040	12.5	8,148	106,282	13.0
Grant					259	2,441	9.4	23,238	215,510	9.3	8,950	88,949	9.9
Hennepin			6,504	30	59	332	5.6	89	1,000	11.2	6	45	7.5
Houston		4			375	3,942	10.5	4,273	52,660	12.3	473	4,984	10.5
Hubbard					70	472	6.7						
Isanti											14	93	6.6
Itasca													
Jackson				8,738	20,980	163,450	7.8	13,183	145,780	11.1	5,788	49,399	8.5
Kanabec								22	110	5.0	62	631	10.2
Kandiyohi				3,087	351	3,005	8.6	8,496	90,090	10.6	8,248	86,627	10.5
Kittson								9,178	108,220	11.8	7,552	61,537	8.1
Koochiching													
Lac qui Parle					576	4,400	7.6	9,678	112,890	11.7	12,578	128,913	10.2
Lake													
Le Sueur					16	165	10.3	33	370	11.2	2	28	14.0
Lincoln					8,377	52,805	6.3	14,392	147,900	10.3	6,867	63,738	9.3
Lyon					5,874	44,711	7.6	12,086	126,210	10.4	4,855	41,517	8.6
McLeod			6	110	128	1,629	12.7	1,074	14,320	13.3	1,698	20,918	12.3
Mahnomen											1,225	9,014	7.4
Mankahta													
Manomin													
Marshall					136	1,558	11.5	11,337	120,220	10.6	17,009	141,744	8.3
Martin					15,710	142,293	9.1	9,539	89,410	9.4	1,808	14,015	7.8
Meeker		3	1,325	7	67	661	9.9	2,589	32,730	12.6	4,149	47,945	11.6
Mille Lacs					6	30	5.0	30	280	9.3	57	496	8.7
Monongalia			50										
Morrison		3			160	1,800	11.3	72	540	7.5	1,594	13,310	8.4
Mower			210		30,244	312,108	10.3	15,998	182,550	11.4	14,798	155,871	10.5
Murray				3,761	17,751	107,681	6.1	16,039	156,580	9.8	6,889	54,988	8.0
Nicollet		2°	20	540	1,401	20,356	14.5	1,400	16,650	11.9	504	5,272	10.5
Nobles				18,188	21,223	153,848	7.2	14,883	158,790	10.7	6,714	46,604	6.9
Norman					87	519	6.0	13,034	114,550	8.8	12,456	87,885	7.1
Olmsted		7		72	7,895	89,965	11.4	14,922	186,270	12.5	3,118	37,377	12.0
Otter Tail					582	4,127	7.1	8,089	86,610	10.7	9,123	92,419	10.1
Pembina													
Pennington											8,505	57,885	6.8
Pierce													
Pine								57	550	9.7	98	918	9.4
Pipestone				1,320	11,467	59,352	5.2	6,010	65,230	10.9	3,878	30,872	8.0
Polk					41	609	14.9	12,599	131,420	10.4	24,500	198,503	8.1
Pope					845	7,027	8.3	7,583	79,380	10.5	11,465	116,013	10.1
Ramsey		2	165	5	15	150	10.0	42	420	10.0	17	239	14.1
Red Lake								1,003	8,480	8.5	6,014	51,942	8.6
Redwood				1,823	7,580	63,406	8.4	10,907	119,080	10.9	6,580	56,481	8.6
Renville					3,166	32,601	10.3	13,963	164,690	11.8	8,461	80,541	9.5
Rice		15	45	107	2,669	24,996	9.4	6,599	82,190	12.5	1,154	14,066	12.2
Rock				10,688	16,874	131,964	7.8	1,722	21,690	12.6	487	3,918	8.0
Roseau								412	4,070	9.9	7,600	70,111	9.2
Saint Louis											1	15	15.0
Scott					90	806	9.0	292	3,810	13.0	36	346	9.6
Sherburne								10	110	11.0			

TABLE XIX—Acreage and Production of Flaxseed in Minnesota by Counties, 1850-1910—*Continued*

Counties	1850	1860	1870	1880	1890			1900			1910		
	Bushels	Bushels	Bushels	Bushels	Area, acres	Production, bushels	Bushels per acre	Area, acres	Production, bushels	Bushels per acre	Area, acres	Production, bushels	Bushels per acre
Sibley				171	1,193	16,359	13.7	1,952	22,020	11.3	1,632	16,027	9.8
Stearns			160	95	168	1,390	8.3	3,069	34,570	11.3	8,438	90,161	10.7
Steele		21	200		2,398	23,826	9.9	5,895	69,430	11.8	1,304	14,285	11.0
Stevens					3,567	31,928	9.0	18,655	177,430	9.5	9,859	90,240	9.2
Swift				665	2,168	17,676	8.2	14,772	136,460	9.2	8,062	67,777	8.4
Todd					1	2	2.0	117	1,090	9.3	1,293	12,119	9.4
Toombs													
Traverse					268	2,167	8.1	22,837	156,050	6.8	12,267	101,197	8.2
Wabasha					942	9,871	10.5	3,632	41,990	11.6	1,806	26,216	14.5
Wadena								101	1,190	11.8	213	1,135	5.3
Wahnahta													
Waseca		4			1,291	13,071	10.1	3,673	38,190	10.4	1,002	10,479	10.5
Washington		1		16	977	10,521	10.8	1,329	19,480	14.7	415	5,949	14.3
Watonwan				5,578	16,740	172,094	10.3	4,197	44,350	10.6	1,273	11,698	9.2
Wilkin				17	534	3,721	7.0	26,899	227,080	8.4	12,895	76,848	6.0
Winona				3	1,250	16,413	13.1	6,252	78,240	12.5	1,102	12,090	11.0
Wright		1	125		14	100	7.1	127	1,140	9.0	90	1,146	12.7
Yellow Medicine					761	6,504	8.5	14,538	172,450	11.9	11,205	114,899	10.3
Indian Reservations								2,281	27,750	12.2			
Totals for the State		118	18,635	98,689	303,635	2,721,987	9.0	566,801	5,895,479	10.4	358,426	3,277,238	9.1

TABLE XX—Acreage and Production of Sugar Beets in Minnesota by Counties, 1850-1910

Counties	1850	1860	1870	1880	1890	1900			1910		
						Acres	Tons	Tons per acre	Acres	Tons	Tons per acre
Aitkin											
Anoka											
Becker						5	33	6.60	4	31	7.75
Beltrami									8	39	4.88
Benton											
Big Stone											
Blue Earth											
Breckenridge						57	373	6.54	14	104	7.43
Brown											
Buchanan						29	240	8.28			
Carlton											
Carver									*	2	
Cass						724	6,285	8.68	555	6,114	11.02
Chippewa											
Chisago											
Clay											
Clearwater											
Cook									1	4	4.00
Cottonwood											
Crow Wing											
Dakota									4	57	14.25
Dodge						72	652	9.06	151	1,604	10.62
Douglas						1	3	3.00	22	175	7.95
Faribault											
Fillmore											
Freeborn									22	197	8.95
Goodhue						36	212	5.89	42	490	11.67
Grant						82	540	6.59	63	649	10.30
Hennepin											
Houston						115	750	6.52	13	165	12.69
Hubbard									36	242	6.72
Isanti									*	2	
Itasca									*	4	
Jackson									*	2	
Kanabec											
Kandiyohi									1	17	17.00
Kittson									1	10	10.00
Koochiching											
Lac qui Parle											

TABLE XX—Acreage and Production of Sugar Beets in Minnesota by Counties, 1850-1910—*Continued*

Counties	1850	1860	1870	1880	1890	1900			1910		
						Acres	Tons	Tons per acre	Acres	Tons	Tons per acre
Lake											
Le Sueur						59	585	9.92	481	5,952	12.37
Lincoln											
Lyon											
McLeod						151	1,186	7.85	84	794	9.45
Mahnomen											
Mankatha											
Manomin											
Marshall									1	8	8.00
Martin											
Meeker						2	12	6.00	27	337	12.48
Mille Lacs									*	2	
Monongalia											
Morrison						*	1		3	9	3.00
Mower						5	47	9.40	41	283	6.90
Murray											
Nicollet						18	154	8.56	3	40	13.33
Nobles											
Norman											
Olmsted									23	318	13.83
Otter Tail						3	21	7.00			
Pembina											
Pennington											
Pierce											
Pine						1	2	2.00	2	18	9.00
Pipestone											
Polk									3	25	8.33
Pope											
Ramsey						15	98	6.53			
Red Lake											
Redwood						8	61	7.63			
Renville						8	70	8.75	30	185	6.17
Rice						21	172	8.19	86	1,060	12.33
Rock											
Roseau											
Saint Louis											
Scott						179	1,408	7.87	80	823	10.29
Sherburne									18	32	1.78
Sibley						372	1,963	5.28	3	32	10.67
Stearns									47	591	12.57
Steele						19	228	12.00	93	944	10.15
Stevens						4	23	5.75			
Swift									3	36	12.00
Todd						3	6	2.00			
Toombs											
Traverse											
Wabasha						9	34	3.78	109	1,205	11.06
Wadena						2	10	5.00			
Wahnahta											
Waseca						9	48	5.33	57	461	8.09
Washington									27	272	10.07
Watonwan											
Wilkin									*	2	
Winona						84	548	6.52	65	637	9.80
Wright						21	194	9.24	15	164	10.93
Yellow Medicine									*	2	
Indian Reservations											
Totals for the State						2,114	15,959	7.55	2,238	24,140	10.79

* Area less than one acre.

TABLE XXI.—ACREAGE AND PRODUCTION OF TOBACCO IN MINNESOTA BY COUNTIES, 1850-1910

	1850	1860	1870	1880			1890			1900			1910
COUNTIES	Pounds	Pounds	Pounds	Area, acres	Production, pounds	Pounds per acre	Area, acres	Production, pounds	Pounds per acre	Area, acres	Production, pounds	Pounds per acre	
Aitkin										*	10		
Anoka		20		3	1,025	342	2	1,296	648				
Becker				1	333	333	*	50		*	90		
Beltrami										*	30		
Benton			15	3	639	213	1	70	70				
Big Stone							*	20					
Blue Earth				2	690	345	1	133	133	*	10		
Breckenridge													
Brown		1,691		3	936	312				*	10		
Buchanan													
Carlton										*	340		
Carver		7,392	70	8	2,661	333	1	130	130	1	480	480	
Cass										*	20		
Chippewa				2	1,276	638							
Chisago		266	86	1	442	442	*	40					
Clay										*	20		
Clearwater													
Cook													
Cottonwood				2	610	305							
Crow Wing										*	70		
Dakota		20	65	1	390	390	1	142	142				
Dodge				2	1,070	535							
Douglas				6	2,305	384	*	40					
Faribault		245		1	300	300	1	110	110				
Fillmore		20	50	7	2,525	361	5	7,158	1432	86	105,420	1,226	
Freeborn			10	2	575	288	1	200	200				
Goodhue				2	405	203							
Grant													
Hennepin		3,096		3	966	322	1	60	60	*	90		
Houston		2,876	1,655	12	6,253	521	1	400	400	2	2,500	1,250	
Hubbard										*	100		
Isanti				3	2,090	697	*	20					
Itasca										1	1,000	1,000	
Jackson			54				1	70	70				
Kanabec								112	112				
Kandiyohi			126	4	2,010	503				*	10		
Kittson										*	160		
Koochiching													
Lac qui Parle							1	58	58	1	200	200	
Lake													
Le Sueur		1,616	70	6	3,401	567	9	1,969	219	8	8,120	1,015	
Lincoln				1	212	212							
Lyon													
McLeod			1,781	4	1,573	393				4	850	213	
Mahnomen													
Mankahta													
Manomin													
Marshall													
Martin													
Meeker		164	25	12	6,403	534	1	78	78				
Mille Lacs										*	40		
Monongalia			370										
Morrison				4	1,671	418	4	1,499	375	1	380	380	
Mower				4	1,975	494	3	4,760	1587				
Murray							1	125	125				
Nicollet		3,962	45	4	545	136							
Nobles													
Norman													
Olmsted		1,139		1	355	355				1	300	300	
Otter Tail				4	1,965	491	2	591	295	*	130		
Pembina													
Pennington													
Pierce													
Pine										1	320	320	
Pipestone													
Polk		200		1	210	210	2	909	455	3	1,600	533	
Pope													
Ramsey		100		2	1,320	660				*	50		
Red Lake										2	560	280	
Redwood				1	310	310	1	70	70				
Renville				2	377	189				1	340	340	
Rice		4,506	130	7	2,496	357				*	10		
Rock													
Roseau										*	10		
Saint Louis				3	1,930	643							
Scott		1,000	1,985	4	2,480	620				*	20		
Sherburne		5		5	2,817	563							

TABLE XXI—Acreage and Production of Tobacco in Minnesota by Counties, 1850-1910—*Continued*

Counties	1850	1860	1870	1880			1890			1900			1910
	Pounds	Pounds	Pounds	Area, acres	Production, pounds	Pounds per acre	Area, acres	Production, pounds	Pounds per acre	Area, acres	Production, pounds	Pounds per acre	
Sibley		1,153		3	536	179	1	288	288				
Stearns			10	6	3,265	544	1	298	298	*	50		
Steele		30		3	1,050	350	*	40		*	40		
Stevens													
Swift				2	1,025	513							
Todd			50	1	706	706	1	575	575				
Toombs													
Traverse													
Wabasha		895											
Wadena							1	118	118				
Wahnahta													
Waseca		670		3	1,512	504	1	800	800				
Washington				1	930	930	1	145	145				
Watonwan			775	1	430	430	*	15					
Wilkin													
Winona		4,000	850	2	690	345	1	305	305	5	4,330	866	
Wright		2,972	25	8	2,237	280	1	591	391	*	20		
Yellow Medicine													
Indian Reservations													
Totals for the State		38,938	8,247	163	69,922	429	49	23,285	475	117	127,730	1,092	

* Area less than one acre.

TABLE XXII.—Acreage and Production of Hay and Forage in Minnesota by Counties, 1850-1910

Counties	1850	1860	1870	1880			1890			1900			1910		
	Tons	Tons	Tons	Area, acres	Production, tons	Tons per acre	Area, acres	Production, tons	Tons per acre	Area, acres	Production, tons	Tons per acre	Area, acres	Production, tons	Tons per acre
Aitkin				67	84	1.25	3,390	4,483	1.32	6,746	12,057	1.79	15,787	22,775	1.44
Anoka		3,255	7,919	11,518	15,228	1.32	22,016	25,956	1.18	26,601	34,822	1.31	30,566	42,995	1.41
Becker				7,429	16,833	2.27	23,423	21,162	0.90	33,867	43,896	1.30	51,767	65,630	1.27
Beltrami							65	113	1.74	8,423	13,029	1.55	14,004	19,030	1.36
Benton	1,121	906	1,535	3,693	6,850	1.85	14,757	18,863	1.28	16,225	27,796	1.71	31,033	50,286	1.62
Big Stone			75	6,118	6,940	1.13	18,393	31,415	1.71	27,595	38,004	1.38	26,953	37,821	1.40
Blue Earth		8,636	18,994	38,137	57,365	1.50	57,824	58,723	1.02	54,008	84,868	1.57	63,191	120,324	1.90
Breckenridge															
Brown			16,520	24,651	40,535	1.64	55,595	71,585	1.29	52,705	73,730	1.40	48,699	98,457	2.02
Buchanan															
Carlton		17		745	892	1.20	1,509	1,856	1.23	8,324	10,714	1.29	16,265	20,215	1.24
Carver		9,155	19,694	14,983	26,087	1.74	23,363	33,404	1.43	27,909	53,433	1.91	34,824	78,401	2.25
Cass				50	70	1.40	1,647	1,817	1.10	6,079	8,658	1.42	12,318	18,681	1.52
Chippewa			4,993	10,695	19,060	1.78	33,481	46,391	1.39	44,220	57,763	1.31	43,107	66,446	1.54
Chisago		2,272	6,242	9,821	13,898	1.42	20,981	26,658	1.27	28,767	48,342	1.68	35,658	63,920	1.79
Clay				13,057	17,753	1.36	51,302	42,280	0.82	96,287	87,572	0.91	83,678	97,157	1.16
Clearwater													18,954	23,213	1.22
Cook				8	10	1.25	20	20	1.00	215	303	1.41	936	883	0.94
Cottonwood		40	539	13,799	23,260	1.69	40,252	48,150	1.20	59,091	67,235	1.14	58,028	82,217	1.42
Crow Wing				488	881	1.81	7,291	7,588	1.04	12,563	18,078	1.44	21,181	25,878	1.22
Dakota		13,242	22,744	22,592	28,229	1.25	48,492	52,944	1.09	39,363	54,354	1.38	44,942	67,233	1.50
Dodge		7,854	19,863	24,474	32,178	1.31	49,025	48,677	0.99	34,564	54,933	1.59	45,386	77,099	1.70
Douglas		450	10,708	17,358	28,853	1.66	39,201	42,809	1.09	41,580	54,494	1.31	56,170	85,972	1.53
Faribault		3,857	15,398	35,452	59,880	1.69	77,308	71,878	0.93	56,009	85,077	1.52	73,608	121,141	1.65
Fillmore		28,684	28,903	32,806	44,737	1.36	61,062	80,797	1.32	50,185	76,066	1.52	63,141	119,711	1.90
Freeborn		9,403	35,712	42,219	64,292	1.52	87,825	87,740	1.00	81,638	130,143	1.59	85,825	158,794	1.85
Goodhue		13,011	31,468	33,173	41,221	1.24	71,320	74,412	1.04	56,966	91,321	1.60	57,886	117,488	2.03
Grant			881	3,210	5,728	1.78	32,081	40,970	1.28	35,765	44,342	1.24	43,545	56,513	1.30
Hennepin		15,811	25,454	26,733	39,556	1.48	46,860	56,830	1.21	53,602	94,713	1.77	62,304	124,811	2.00
Houston		9,692	14,776	16,193	21,499	1.33	31,419	43,993	1.40	37,117	57,095	1.54	38,708	67,052	1.73
Hubbard							167	199	1.19	2,384	3,356	1.41	15,196	15,035	1.00
Isanti		596	5,432	6,468	9,908	1.53	15,966	19,285	1.21	23,649	33,895	1.43	32,131	47,457	1.48
Itasca	43						245	465	1.90	1,432	2,296	1.60	5,424	7,714	1.42
Jackson		39	4,263	16,040	27,932	1.74	53,215	57,210	1.08	54,962	71,513	1.30	66,795	101,975	1.53
Kanabec		110		211	297	1.41	1,843	1,921	1.04	6,195	11,913	1.92	19,004	28,868	1.52
Kandiyohi		125	3,823	25,685	40,220	1.57	67,233	84,322	1.25	76,528	103,583	1.35	84,650	116,130	1.37
Kittson				371	683	1.84	18,418	12,091	0.66	35,899	35,438	1.00	44,716	46,717	1.04
Koochiching													2,449	3,368	1.38

TABLE XXII—Acreage and Production of Hay and Forage in Minnesota by Counties, 1850-1910—*Continued*

Counties	1850	1860	1870	1880			1890			1900			1910		
	Tons	Tons	Tons	Area, acres	Production, tons	Tons per acre	Area, acres	Production, tons	Tons per acre	Area, acres	Production, tons	Tons per acre	Area, acres	Production, tons	Tons per acre
Lac qui Parle				9,643	18,180	1.89	36,020	55,838	1.55	39,320	60,949	1.55	44,184	74,683	1.69
Lake			445	72	139	1.93	104	190	1.83	178	237	1.33	1,183	1,437	1.21
Le Sueur		10,068	18,510	13,579	21,654	1.59	20,490	37,856	1.85	22,265	57,757	2.59	32,136	67,571	2.10
Lincoln				3,662	6,284	1.72	22,217	24,020	1.08	26,833	37,636	1.40	40,194	72,394	1.80
Lyon				12,223	19,715	1.61	33,115	42,965	1.30	44,606	61,547	1.38	44,041	70,387	1.60
McLeod		2,698	16,932	24,993	39,618	1.59	40,248	55,925	1.39	46,849	69,568	1.48	53,122	87,477	1.65
Mahnomen													5,719	5,217	0.91
Mankahta															
Manomin		850													
Marshall				576	895	1.55	40,637	30,010	0.74	65,573	74,572	1.14	83,087	83,239	1.00
Martin		170	11,689	19,832	35,692	1.80	63,910	71,867	1.12	55,203	76,544	1.39	68,709	114,742	1.67
Meeker		2,083	15,329	22,460	36,803	1.64	47,599	61,635	1.29	52,577	82,375	1.57	58,798	101,693	1.73
Mille Lacs		62	1,917	1,114	1,875	1.68	5,426	7,116	1.31	11,626	17,865	1.54	24,209	44,025	1.82
Monongalia		345	10,209												
Morrison		729	2,462	5,355	7,835	1.46	18,348	21,790	1.19	24,970	37,416	1.50	53,489	78,945	1.48
Mower		4,611	18,151	33,592	42,750	1.27	64,237	67,988	1.06	51,797	80,516	1.55	69,662	113,570	1.63
Murray		94	349	4,999	9,543	1.91	24,967	33,697	1.35	42,602	60,510	1.42	60,463	86,856	1.44
Nicollet		9,856	24,446	31,709	54,381	1.72	51,790	65,756	1.26	48,337	79,734	1.65	46,890	75,334	1.61
Nobles				9,291	19,160	2.06	47,036	44,095	0.94	59,037	66,204	1.12	70,081	87,645	1.25
Norman							52,876	29,713	0.56	59,941	62,740	1.05	66,985	66,789	1.00
Olmsted		21,461	31,319	30,464	43,138	1.42	53,352	65,392	1.23	37,606	61,740	1.64	48,284	96,379	2.00
Otter Tail		556	4,262	25,935	40,194	1.55	65,438	66,192	1.01	90,102	111,114	1.23	133,137	187,095	1.41
Pembina															
Pennington													57,494	57,298	1.00
Pierce															
Pine		110	133	346	453	1.31	2,421	2,473	1.02	12,167	20,205	1.66	31,022	48,046	1.55
Pipestone				3,139	4,946	1.58	9,395	9,147	0.97	16,231	20,703	1.28	36,830	53,621	1.46
Polk		325		11,670	6,621	0.57	101,316	72,537	0.72	121,100	137,796	1.14	142,460	142,284	1.00
Pope			8,567	14,883	26,537	1.78	49,861	60,983	1.22	59,236	71,266	1.20	60,576	83,685	1.38
Ramsey	100	2,996	5,600	6,386	8,834	1.38	12,078	17,081	1.41	15,235	23,897	1.57	14,844	29,828	2.01
Red Lake										33,385	37,212	1.11	21,427	19,700	0.92
Redwood			882	7,634	14,860	1.95	42,122	64,336	1.53	54,554	79,417	1.46	58,963	99,539	1.69
Renville		670	9,731	25,196	47,291	1.88	69,779	108,190	1.55	78,486	99,255	1.26	80,945	127,692	1.58
Rice		16,462	33,615	27,312	41,229	1.51	42,288	43,332	1.02	42,633	73,983	1.74	49,639	100,097	2.02
Rock			433	10,031	15,129	1.51	26,833	27,848	1.04	26,127	35,442	1.36	35,384	64,007	1.81
Roseau										29,902	35,845	1.20	50,237	52,704	1.05
Saint Louis		140		562	1,784	3.17	2,485	2,409	0.97	6,350	7,960	1.25	24,892	28,247	1.13
Scott		7,861	19,700	16,463	26,617	1.62	23,935	29,558	1.23	23,045	42,694	1.85	28,237	55,518	1.97
Sherburne		1,873	8,303	7,102	11,168	1.57	17,320	21,117	1.22	19,671	30,197	1.54	25,720	33,597	1.31
Sibley		604	32,659	19,873	33,254	1.67	46,623	66,370	1.42	54,467	69,311	1.27	62,044	91,194	1.47
Stearns		12,224	28,939	26,303	43,295	1.65	71,877	80,098	1.11	81,356	111,714	1.37	108,234	162,200	1.50
Steele		6,940	19,928	26,800	42,355	1.58	50,293	51,180	1.02	43,180	73,984	1.71	54,104	95,888	1.77
Stevens			877	6,248	9,768	1.56	26,267	34,904	1.33	37,880	50,601	1.34	45,324	58,432	1.29
Swift				9,642	20,524	2.13	42,721	67,624	1.58	53,648	71,992	1.34	46,091	60,790	1.32
Todd		625	3,339	7,578	12,774	1.69	25,739	30,753	1.19	31,724	48,255	1.52	59,937	92,634	1.55
Toombs															
Traverse			100	1,635	1,990	1.22	11,653	17,723	1.52	32,860	32,116	0.98	37,359	44,500	1.19
Wabasha		13,559	11,618	15,073	20,315	1.35	27,372	37,058	1.35	23,885	39,277	1.64	29,220	60,240	2.06
Wadena				416	879	2.11	5,601	6,443	1.15	10,768	15,025	1.40	25,071	31,727	1.27
Wahnahta															
Waseca		3,836	20,445	23,911	35,430	1.48	46,602	39,051	0.84	36,759	58,141	1.58	44,434	84,033	1.89
Washington	755	4,451	6,430	12,054	15,228	1.26	30,634	30,308	0.99	32,905	48,654	1.48	34,158	62,250	1.82
Watonwan			6,383	14,388	25,455	1.77	34,229	46,218	1.35	32,157	48,148	1.50	42,372	76,113	1.80
Wilkin			1,510	733	1,140	1.56	14,733	15,084	1.02	40,690	39,466	0.97	45,837	47,741	1.04
Winona		10,443	16,944	18,851	26,692	1.42	35,692	49,667	1.39	33,754	49,515	1.47	40,000	75,319	1.88
Wright		5,626	6,961	18,603	30,429	1.64	32,382	44,000	1.36	40,708	78,709	1.93	51,639	107,533	2.08
Yellow Medicine				12,803	23,297	1.82	42,141	60,697	1.44	48,096	67,604	1.41	48,376	77,405	1.60
Indian Reservations										7,846	9,427	1.20			
Totals for the State	2,019	*269,483	695,053	1,053,378	1,637,109	1 55	2,709,191	3,135,241	1.16	3,157,690	4,411,667	1.40	3,946,072	6,036,747	1.53

* This represents the total of returns by counties; state total as given in Census report, 179,482.

TABLE XXIII—Miscellaneous Agricultural Statistics for Minnesota as a Whole According to the United States Census, 1850-1910

	Items	1850	1860	1870	1880	1890	1900	1910
	I. UNIMPROVED LAND IN FARMS:							
1	Total unimproved land in farms, acres	23,846	2,155,718	4,161,726	6,156,326	7,535,692	7,805,913	8,032,290
2	Woodland, acres in farms			1,336,299	2,030,726			3,922,391
3	Forest products from farms, value			$311,528	$1,796,260		$2,602,335	$5,181,508
4	Unimproved land not growing wood, acres			2,825,427	4,125,600			4,109,899

TABLE XXIII—Miscellaneous Agricultural Statistics for Minnesota as a Whole According to the United States Census, 1850-1910—*Continued*

	Items	1850	1860	1870	1880	1890	1900	1910
	II. IMPROVED LAND IN FARMS:							
5	Total improved land, acres in farms	5,035	556,250	2,322,102	7,246,693	11,127,953	18,442,585	19,643,533
6	Total tilled land§				4,455,918	7,192,759	12,943,339	12,738,056
6a	Tilled land including fallows and grass in rotation, acres in farms				5,519,368			
7	Permanent pastures, meadows, orchards, vineyards, and acres in farms				1,727,325			
	III. HAY AND FORAGE:							
8	Alfalfa, acres						658	2,288
9	Alfalfa, tons						1,781	6,314
10	Clover, acres						74,669	57,358
11	Clover, tons						128,767	106,334
12	Timothy, acres							780,375
13	Timothy, tons							1,101,510
14	Clover and timothy (mixed), acres							829,600
15	Clover and timothy (mixed), tons							1,433,075
16	Millet, acres						58,339	27,136
17	Millet, tons						93,954	50,383
18	Corn stalks, production in tons						72,339	
19	Grains cut green, acres						26,304	19,981
20	Grains cut green, tons						45,633	31,060
21	Root forage, acres							558
22	Root forage, tons							3,965
23	Root forage, value							$30,315
	IV. FIELD CROPS:							
24	Acreage in cereals				4,234,187	6,297,044	11,207,069	10,139,850
25	Per cent of improved land in cereals				58.4	56.6	60.8	51.6
26	Buckwheat, acres				3,677	22,090	6,700	10,309
27	Buckwheat, bushels	515	28,052	52,438	41,756	281,705	82,687	144,861
28	Rice, pounds		3,286					
29	Emmer and spelt, acres							30,891
30	Emmer and spelt, bushels							757,339
31	Peas and beans (dry), acres						3,960	5,532
32	Peas and beans (dry), bushels	10,002	18,988	46,601	25,039	‡70,064	45,338	77,786
33	Clover seed, bushels		*351	‡26	18,003	87,240	8,034	48,013
34	Grass seed, bushels		†3,255	3,045	30,707	507,459	553,939	897,653
35	Sweet potatoes, acres					7	4	Less than 1 acre
36	Sweet potatoes, bushels	200	792	1,594		365	136	50
37	Peanuts, bushels					145		15
38	Vegetables, except potatoes, sweet potatoes, yams and sugar beets, acres						28,361	46,021
39	Vegetables, except potatoes, sweet potatoes, yams and sugar beets, value						$1,503,401	$3,359,052
40	Flax fibre, pounds		1,983	122,571	497	8,609		
41	Hemp fibre, tons		109		20			
42	Broom corn, pounds				68,433	42,090	76,960	10,259
43	Hops, pounds		††140	222,065	10,928	500	51	372
	V. SUGAR AND MOLASSES OR SYRUP:							
44	Maple sugar, pounds	2,950	370,669	210,467	76,972	34,917	29,580	11,399
45	Maple syrup, gallons		23,038	12,722	11,407	12,091	1,079	17,808
46	Sorghum, acres					3,890	2,283	1,709
47	Sorghum molasses, gallons		14,178	38,735	543,369	340,792	157,605	145,934
48	Sorghum, tons of cane sold for sugar making				‖190	593	1,232	none
49	Sorghum, production in tons						14,369	13,253
	VI. GARDEN AND ORCHARD CROPS:							
50	Market gardening, value of products	$150	$94,704	$115,234	$166,030	¶$612,451		
51	Orchard fruits, number of trees					**215,381	1,096,444	1,644,590
52	Orchard fruits, bushels					85,603	143,655	1,066,659
53	Orchard fruits, value of products		$649	$15,818	$121,648		$109,050	$801,112
54	Dried and evaporated fruits, pounds						500	2,853
55	Grapes, number of vines						138,175	97,866
56	Grapes, pounds						573,272	293,805
57	Grapes, value of products (including grapes, raisins and wine)						$15,593	$11,021
58	Wine, gallons		412	1,750			6,197	4,567
59	Cider and vinegar, gallons						9,450	14,822
60	Small fruits, acres						3,092	3,738
61	Small fruits, quarts						4,542,640	4,476,575
62	Small fruits, value of products						$339,569	$493,406
63	Nuts, value of all						$597	$1,838
64	Nursery trees and plants, acres bearing					809	1,127	3,854
65	Seed farms, acres planted					856		
66	Florists' establishments, area under glass in square feet					408,612	889,986	1,419,196

* Total as given in census (1860 p. 82) 432
Correct sum of county items 351.

† Total as given in census 3,182.
Correct sum of county items 3,255.

‡ In addition 1,288 bushels of cowpeas are reported.

§ Calculated by taking the sum of all reported acreages, corrected by adding the acreages reported by Minnesota Statistics in cases where census does not report.

‖ Pounds of sugar produced.

¶ Includes value of small fruits.

** Number of bearing trees only.

†† Total as given in census (1860 p. 82) 132.
Correct sum of county items 140.

TABLE XXIV—Cattle on Farms in Minnesota

	Counties	1850				1860				1870				1880	
		Total number of cattle	Dairy cows	Other cattle	Per cent dairy	Total number of cattle	Dairy cows	Other cattle	Per cent dairy	Total number of cattle	Dairy cows	Other cattle	Per cent dairy	Total number of cattle	Dairy cows
1	Aitkin									3	1	2	33.3	136	49
2	Anoka					1,308	468	840	35.8	2,855	978	1,877	34.3	6,732	2,704
3	Becker									65	19	46	29.2	6,210	2,104
4	Beltrami														
5	Benton	246	60	186	24.4	337	105	232	31.2	549	217	332	39.5	3,993	1,429
6	Big Stone									46	7	39	15.2	1,978	784
7	Blue Earth					3,380	1,063	2,317	31.4	11,731	4,734	6,997	40.4	22,847	9,584
8	Breckenridge														
9	Brown					2,178	577	1,601	26.5	5,786	2,155	3,631	37.2	14,605	6,403
10	Buchanan														
11	Carlton					19	5	14	26.3					339	127
12	Carver					5,182	1,596	3,586	30.8	12,551	4,170	8,381	33.2	13,534	5,685
13	Cass									16	4	12	25.0	155	59
14	Chippewa									2,085	584	1,501	28.0	5,385	2,273
15	Chisago					1,249	341	908	27.3	2,801	1,027	1,774	36.7	8,180	2,633
16	Clay									23	13	10	57.0	4,379	1,588
17	Clearwater														
18	Cook													5	3
19	Cottonwood					16	5	11	31.3	237	74	163	31.2	8,463	3,166
20	Crow Wing									111	35	76	31.5	264	88
21	Dakota					6,497	2,199	4,298	33.8	10,331	4,806	5,525	46.5	12,673	6,248
22	Dodge					2,798	1,008	1,790	36.0	7,867	3,208	4,659	40.8	10,448	5,092
23	Douglas					148	36	112	24.3	2,972	1,071	1,901	36.0	11,855	4,076
24	Faribault					814	287	527	35.3	8,099	3,235	4,864	39.9	17,824	8,020
25	Fillmore					14,460	4,950	9,510	33.8	18,823	8,092	10,731	43.0	23,177	10,719
26	Freeborn					2,917	1,012	1,905	34.7	11,641	4,468	7,173	38.4	18,673	8,236
27	Goodhue					4,975	1,851	3,124	37.2	15,506	6,485	9,021	41.8	17,824	9,461
28	Grant									347	133	214	38.3	4,126	1,385
29	Hennepin					8,062	2,775	5,287	34.4	12,128	5,361	6,767	44.2	14,700	8,069
30	Houston					4,120	1,522	2,598	37.0	8,150	3,614	4,536	44.3	15,849	6,704
31	Hubbard														
32	Isanti					186	60	126	32.3	1,809	660	1,149	36.5	6,369	2,229
33	Itasca	102	100	2	98.0										
34	Jackson					29	14	15	48.3	1,209	469	740	38.8	7,843	2,888
35	Kanabec					80	20	60	25.0	14	2	12	14.3	421	135
36	Kandiyohi					46	16	30	34.8	1,419	565	854	39.8	14,723	5,697
37	Kittson													406	160
38	Koochiching														
39	Lac qui Parle									176	54	122	30.7	5,771	2,282
40	Lake									23	11	12	47.8	86	37
41	Le Sueur					5,221	1,535	3,686	29.4	10,596	3,695	6,901	34.9	11,707	5,668
42	Lincoln													3,088	1,290
43	Lyon													6,497	2,563
44	McLeod					820	266	554	32.4	6,624	2,483	4,141	37.5	15,553	6,117
45	Mahnomen														
46	Manomin					93	38	55	40.9						
47	Mankahta														
48	Marshall													653	205
49	Martin					50	21	29	42.0	3,223	1,267	1,956	39.3	10,209	3,981
50	Meeker					724	244	480	33.7	5,708	1,871	3,837	32.8	11,980	5,209
51	Mille Lacs					40	9	31	22.5	719	249	470	34.6	1,459	451
52	Monongalia					115	35	80	30.4	3,369	1,299	2,070	38.6		
53	Morrison					354	109	245	30.8	1,058	353	705	33.4	5,228	1,806
54	Mower					1,805	631	1,174	35.0	7,616	3,073	4,543	40.3	14,888	6,693
55	Murray					21	5	16	23.8	126	38	88	30.2	3,862	1,616
56	Nicollet					2,958	1,058	1,900	35.8	7,363	3,189	4,174	43.3	16,864	6,433
57	Nobles													5,343	2,008
58	Norman														
59	Olmsted					8,460	2,996	5,464	35.4	15,959	6,496	9,463	40.7	17,867	7,929
60	Otter Tail					79	24	55	30.4	1,700	539	1,161	31.7	20,762	7,288
61	Pembina	412	145	267	35.2										
62	Pennington														
63	Pierce														
64	Pine					21	4	17	19.0	17	6	11	35.3	313	68
65	Pipestone													1,434	610
66	Polk					114	15	99	13.2					7,304	2,774
67	Pope									3,081	942	2,139	30.6	9,489	3,506
68	Ramsey	163	34	129	20.9	961	450	511	46.8	2,058	1,099	959	53.4	3,497	1,905
69	Red Lake														
70	Redwood									256	90	166	35.2	7,513	2,575
71	Renville					272	74	198	27.2	2,752	993	1,759	36.1	16,052	6,083
72	Rice					6,334	1,911	4,423	30.2	11,843	4,240	7,603	35.8	14,098	6,622
73	Rock									116	34	82	29.3	4,111	1,611
74	Roseau														
75	Saint Louis					47	13	34	27.7					839	343
76	Scott					4,117	1,489	2,628	36.2	11,255	4,262	6,993	37.9	9,954	4,917
77	Sherburne					733	300	433	40.9	2,206	716	1,490	32.5	7,431	2,372

by Counties, 1850-1910

1880		1890				1900				1910				
Other cattle	Per cent dairy	Total number of cattle	Dairy cows	Other cattle	Per cent dairy	Total number of cattle	Dairy cows	Other cattle	Per cent dairy	Total number of cattle	Dairy cows	Other cattle	Per cent dairy	Counties
87	36.0	1,337	454	883	34.0	4,929	1,812	3,117	36.8	10,720	5,318	5,402	49.6	1
4,028	40.2	8,795	4,499	4,296	51.2	13,883	5,978	7,905	43.1	15,608	8,659	6,949	55.5	2
4,106	33.9	12,803	5,106	7,697	39.9	17,665	7,408	10,257	41.9	24,209	11,015	13,194	45.5	3
		307	118	189	38.4	4,936	1,935	3,001	39.2	7,426	3,246	4,180	43.7	4
2,564	35.8	8,464	3,177	5,287	37.5	12,784	4,505	8,279	35.2	22,092	10,773	11,319	48.8	5
1,194	39.6	8,646	3,108	5,538	35.9	9,697	3,621	6,076	37.3	12,804	5,107	7,697	39.9	6
13,263	41.9	33,148	14,953	18,195	45.1	41,560	17,659	23,901	42.5	43,648	20,447	23,201	46.8	7
														8
8,202	43.8	24,598	11,176	13,422	45.4	29,509	12,981	16,528	44.0	32,571	15,791	16,780	48.5	9
														10
212	37.5	550	204	346	37.1	4,004	1,538	2,466	38.4	7,932	4,154	3,778	52.4	11
7,849	42.0	19,528	9,326	10,202	47.8	28,319	13,963	14,356	49.3	33,000	19,834	13,166	60.1	12
96	38.1	631	255	376	40.4	4,012	1,470	2,542	36.6	8,138	3,872	4,266	47.6	13
3,112	42.2	13,187	5,280	7,907	40.0	17,353	7,244	10,109	41.7	20,219	9,194	11,025	45.5	14
5,547	32.2	13,675	5,813	7,862	42.5	23,774	9,466	14,308	39.8	26,288	14,622	11,666	55.6	15
2,791	36.3	16,748	6,493	10,255	38.8	20,413	7,955	12,458	39.0	24,319	11,146	13,173	45.8	16
										9,216	4,501	4,715	48.8	17
2	60.0	11	4	7	36.4	155	60	95	38.7	237	123	114	51.9	18
5,297	37.4	16,885	6,639	10,246	39.3	22,451	8,400	14,051	37.4	34,433	13,165	21,268	38.2	19
176	33.3	3,739	1,564	2,175	41.8	8,222	2,993	5,229	36.4	10,624	5,465	5,159	51.4	20
6,425	49.3	22,202	11,949	10,253	53.8	23,299	9,549	13,750	41.0	26,781	12,696	14,085	47.4	21
5,356	48.7	26,258	12,257	14,001	46.7	32,106	12,690	19,416	39.5	38,987	16,289	22,698	41.8	22
7,779	34.4	17,928	7,569	10,359	42.2	24,614	9,210	15,404	37.4	32,876	15,025	17,851	45.7	23
9,804	45.0	41,152	14,135	27,017	34.3	40,229	15,925	24,304	39.6	42,008	18,255	23,753	43.5	24
12,458	46.2	48,219	22,306	25,913	46.3	53,326	19,172	34,154	36.0	61,713	21,937	39,776	35.5	25
10,437	44.1	40,883	18,232	22,651	44.6	61,580	27,384	34,196	44.5	58,188	27,890	30,298	47.9	26
8,363	53.1	41,708	21,607	20,101	51.8	44,657	17,838	26,819	39.9	52,199	24,843	27,356	47.6	27
2,741	33.6	11,868	4,694	7,174	39.6	14,553	5,735	8,818	39.4	18,879	7,990	10,889	42.3	28
6,631	54.9	18,786	12,466	6,320	66.4	33,545	19,114	14,431	57.0	34,323	23,471	10,852	68.4	29
9,145	42.3	30,017	12,324	17,693	41.1	32,943	11,788	21,155	35.8	37,389	14,837	22,552	39.7	30
		1,324	445	879	33.6	2,164	852	1,312	39.4	4,924	2,511	2,413	51.0	31
4,140	35.0	10,672	4,640	6,032	43.5	16,119	6,696	9,423	41.5	18,997	10,446	8,551	55.0	32
		55	18	37	32.7	683	241	442	35.3	3,390	1,735	1,655	51.2	33
4,955	36.8	22,902	8,688	14,214	37.9	34,548	12,840	21,708	37.2	39,389	16,268	23,121	41.3	34
286	32.1	1,488	595	893	40.0	6,143	2,167	3,976	35.3	10,810	5,454	5,356	50.5	35
9,026	38.7	27,838	10,882	16,956	39.1	34,723	14,376	20,347	41.3	37,613	17,077	20,536	45.4	36
246	39.4	7,520	2,850	4,670	37.9	9,965	3,408	6,557	34.2	16,241	6,694	9,547	41.2	37
										1,017	460	557	45.2	38
3,489	39.5	18,750	7,251	11,499	38.7	21,264	8,646	12,618	40.7	25,870	10,985	14,885	42.5	39
49	43.0	41	13	28	31.7	116	73	43	62.9	591	332	259	56.2	40
6,039	48.4	16,674	8,003	8,671	48.0	25,199	10,146	15,053	40.3	27,359	13,586	13,773	49.7	41
1,798	41.8	9,968	3,827	6,141	38.4	14,471	5,578	8,893	38.5	25,324	10,623	14,701	41.9	42
3,934	39.4	14,776	5,706	9,070	38.6	21,015	6,985	14,030	33.2	29,468	11,443	18,025	38.8	43
9,436	39.2	21,144	10,528	10,616	49.8	29,241	14,396	14,845	49.2	34,736	20,375	14,361	58.7	44
										2,397	1,207	1,190	50.4	45
														46
														47
448	31.4	14,651	4,705	9,946	32.1	23,514	7,834	15,680	33.3	31,812	13,700	18,112	43.1	48
6,228	39.0	27,753	10,071	17,682	36.3	36,439	13,264	23,175	36.4	42,168	16,906	25,262	40.1	49
6,771	43.5	21,157	8,849	12,308	41.8	32,673	14,360	18,313	44.0	37,557	19,062	18,495	50.8	50
1,008	30.9	2,618	915	1,703	35.0	8,078	2,832	5,246	35.1	17,016	8,255	8,761	48.5	51
														52
3,422	34.5	12,667	5,115	7,552	40.4	20,553	7,632	12,921	37.1	36,341	17,476	18,865	48.1	53
8,195	45.0	33,821	15,843	17,978	46.8	44,458	16,674	27,784	37.5	49,002	18,792	30,210	38.3	54
2,246	41.8	12,082	4,956	7,126	41.0	22,127	8,116	14,011	36.7	36,040	12,839	23,201	35.6	55
10,431	38.1	21,258	9,520	11,738	44.8	26,282	11,293	14,989	43.0	23,617	11,441	12,176	48.4	56
3,335	37.6	17,680	6,191	11,489	35.0	25,441	7,666	17,775	30.1	41,008	14,603	26,405	35.6	57
		17,625	7,208	10,417	40.9	21,708	8,972	12,736	41.3	26,217	11,894	14,323	45.2	58
9,938	44.4	37,056	17,439	19,617	47.1	40,032	14,844	25,188	37.1	48,176	17,940	30,236	37.2	59
13,474	35.1	38,948	16,850	22,098	43.3	50,996	21,650	29,346	42.5	74,660	34,529	40,131	46.2	60
														61
										19,417	8,606	10,811	44.3	62
														63
245	21.7	1,770	702	1,068	39.7	10,023	3,836	6,187	38.3	19,359	10,379	8,980	53.6	64
824	42.5	6,026	2,588	3,438	42.9	12,114	4,199	7,915	34.7	22,980	7,818	15,162	34.0	65
4,530	38.0	39,397	14,413	24,984	36.6	41,015	16,021	24,994	39.1	53,491	24,650	28,841	46.1	66
5,983	36.9	22,277	8,055	14,222	36.2	24,269	8,833	15,436	36.4	28,001	11,455	16,546	40.9	67
1,592	54.5	3,822	2,716	1,106	71.1	7,917	5,915	2,002	74.7	7,790	6,029	1,761	77.4	68
						15,079	4,873	10,206	32.3	10,285	4,562	5,723	44.4	69
4,938	34.3	22,951	8,314	14,637	36.2	31,229	11,724	19,505	37.5	38,437	16,176	22,261	42.1	70
9,969	37.9	30,398	12,742	17,656	41.9	38,193	16,263	21,930	42.6	40,832	19,065	21,767	46.7	71
7,476	47.0	27,624	14,236	13,388	51.5	36,392	15,678	20,714	43.1	39,544	21,273	18,271	53.8	72
2,500	39.2	13,205	4,847	8,358	36.7	22,801	6,477	16,324	28.4	29,099	9,627	19,472	33.1	73
						9,736	3,646	6,090	37.4	19,715	8,414	11,301	42.7	74
496	40.9	1,073	703	370	65.5	4,054	2,116	1,938	52.2	11,697	6,655	5,042	56.9	75
5,037	49.4	14,616	7,614	7,002	52.1	24,119	9,858	14,261	40.9	23,933	12,879	11,054	53.8	76
5,059	31.9	12,461	5,491	6,970	44.1	16,214	5,908	10,306	36.4	14,546	7,258	7,288	49.9	77

TABLE XXIV—CATTLE ON FARMS IN MINNESOTA

	Counties	1850				1860				1870				1880	
		Total number of cattle	Dairy cows	Other cattle	Per cent dairy	Total number of cattle	Dairy cows	Other cattle	Per cent dairy	Total number of cattle	Dairy cows	Other cattle	Per cent dairy	Total number of cattle	Dairy cows
78	Sibley					3,270	1,110	2,160	33.9	9,483	3,531	5,952	37.8	15,521	5,731
79	Stearns					3,924	1,102	2,822	28.1	12,870	4,399	8,471	34.2	26,099	9,723
80	Steele					2,500	899	1,601	36.0	6,640	2,846	3,794	42.9	11,446	5,485
81	Stevens									260	89	171	34.2	2,164	1,002
82	Swift													7,791	2,772
83	Todd					227	66	161	29.1	950	337	613	35.5	7,223	2,487
84	Toombs														
85	Traverse													837	323
86	Wabasha	264	59	205	22.3	4,952	1,705	3,247	34.4	11,678	4,374	7,304	37.5	9,797	5,000
87	Wadena									18	6	12	33.3	869	320
88	Wahnahta	87	13	74	14.9										
89	Waseca					1,611	545	1,066	33.8	6,865	2,593	4,272	37.8	11,148	5,252
90	Washington	728	196	532	26.9	3,018	1,223	1,795	40.5	4,164	2,074	2,090	49.8	8,495	4,380
91	Watonwan									2,430	702	1,728	28.9	8,866	3,648
92	Wilkin									419	113	306	27.0	1,061	458
93	Winona					4,430	1,651	2,779	37.3	11,547	5,167	6,380	44.7	15,250	6,680
94	Wright					3,285	1,006	2,279	30.6	6,037	2,050	3,987	34.0	17,796	6,850
95	Yellow Medicine													6,719	2,674
96	Indian Reservations														
	Totals for the State	2,002	607	†1,395	30.3	119,357	*40,444	†78,913	34.0	310,379	121,467	†188,912	39.1	659,050	275,545

* Total as given in Census (1860, p. 80), 40,344. Correct sum of county items, 40,444.

† Includes working oxen.

by Counties, 1850-1910—*Continued*

1880		1890				1900				1910				
Other cattle	Per cent dairy	Total number of cattle	Dairy cows	Other cattle	Per cent dairy	Total number of cattle	Dairy cows	Other cattle	Per cent dairy	Total number of cattle	Dairy cows	Other cattle	Per cent dairy	Counties
9,790	36.9	22,738	11,380	11,358	50.0	30,301	13,950	16,351	46.0	33,209	17,308	15,901	52.1	78
16,376	37.3	37,763	16,348	21,415	43.3	55,961	21,777	34,184	38.9	68,428	36,272	32,156	53.0	79
5,961	47.9	24,243	11,704	12,539	48.3	34,299	17,125	17,174	49.9	36,835	20,332	16,503	55.2	80
1,162	46.3	9,336	3,391	5,945	36.3	12,564	4,520	8,044	36.0	15,982	6,764	9,218	42.3	81
5,019	35.6	17,815	6,738	11,077	37.8	20,437	8,418	12,019	41.2	23,612	9,856	13,756	41.7	82
4,736	34.4	15,356	5,965	9,391	38.8	22,714	8,972	13,742	39.5	39,243	20,129	19,114	51.3	83
														84
514	38.6	5,848	2,187	3,661	37.4	7,774	3,105	4,669	40.0	12,837	5,402	7,435	42.1	85
4,797	51.0	20,786	9,177	11,609	44.1	24,957	8,827	16,130	35.4	28,882	11,755	17,127	40.7	86
549	36.9	3,243	1,307	1,936	40.3	7,450	2,838	4,612	38.1	13,358	6,730	6,628	50.4	87
														88
5,896	47.1	20,746	9,629	11,117	46.4	26,801	12,386	14,415	46.2	27,297	13,834	13,463	50.7	89
4,115	51.6	13,161	7,478	5,683	56.8	18,965	8,260	10,705	43.6	21,297	11,161	10,136	52.4	90
5,218	41.1	16,279	7,504	8,775	46.1	20,995	8,925	12,070	42.5	27,331	11,533	15,798	42.2	91
603	43.2	6,431	2,339	4,092	36.4	9,459	3,605	5,854	38.1	12,604	5,418	7,186	43.0	92
8,570	43.8	27,052	11,253	15,799	41.6	29,000	10,788	18,212	37.2	39,931	17,017	22,914	42.6	93
10,946	38.5	23,551	11,053	12,498	46.9	39,544	16,915	22,629	42.8	49,876	28,071	21,805	56.3	94
4,045	39.8	21,070	7,218	13,852	34.3	22,988	8,447	14,541	36.7	29,020	12,662	16,358	43.6	95
						1,491	493	998	33.1					96
383,505	41.8	1,373,579	593,908	779,671	43.2	1,871,325	753,632	1,117,693	40.3	2,347,435	1,085,388	1,262,047	46.2	

TABLE XXV.—HORSES, MULES, AND ASSES IN MINNESOTA BY COUNTIES, 1850-1910

COUNTIES	1850		1860		1870		1880		1890		1900		1910	
	Number		Number		Number		Number		Number		Number		Number	Value
Aitkin					3		13		181		1,470		2,098	$ 230,837
Anoka			193		638		1,738		3,007		4,171		4,786	594,432
Becker					17		1,319		3,270		6,591		7,577	905,036
Beltrami									37		1,769		1,747	196,609
Benton	59		42		106		693		1,906		3,493		4,856	604,112
Big Stone							943		3,485		7,290		7,872	950,166
Blue Earth			353		4,499		9,873		14,065		14,870		15,453	1,773,653
Breckenridge														
Brown			171		1,235		4,823		8,094		10,433		11,491	1,289,443
Buchanan														
Carlton			2				37		100		975		1,749	220,478
Carver			149		1,740		4,126		5,580		6,625		7,709	953,040
Cass					11		33		164		1,514		1,974	203,274
Chippewa					160		2,164		5,806		9,855		10,255	1,138,481
Chisago			102		413		1,428		2,561		4,954		5,897	712,392
Clay					10		1,796		6,185		13,440		13,535	1,744,895
Clearwater													1,705	191,334
Cook											18		108	15,650
Cottonwood			1		53		2,558		5,421		9,729		11,263	1,245,186
Crow Wing					40		49		930		2,718		2,748	287,398
Dakota			1,197		5,599		8,428		9,756		10,356		10,771	1,418,031
Dodge			603		2,932		6,660		7,780		8,405		8,920	1,054,140
Douglas			8		544		2,867		6,231		9,357		9,580	1,045,931
Faribault			162		3,103		6,799		11,542		14,238		15,044	1,715,513
Fillmore			2,458		6,662		14,062		15,990		16,584		17,067	2,150,136
Freeborn			250		3,170		8,321		10,997		13,489		14,275	1,623,907
Goodhue			810		6,950		13,114		14,372		15,301		16,661	2,075,811
Grant					48		1,347		4,899		7,323		7,767	917,598
Hennepin			1,277		3,692		6,722		8,667		11,555		12,068	1,530,726
Houston			564		2,970		6,367		8,336		8,319		8,900	1,028,669
Hubbard									525		1,331		1,856	210,849
Isanti			12		225		1,096		2,156		4,640		5,576	649,648
Itasca									41		448		1,007	134,176
Jackson			3		245		1,968		5,382		11,490		12,807	1,424,460
Kanabec			11		3		48		210		1,353		2,470	288,709
Kandiyohi			2		233		4,486		8,654		12,544		12,701	1,572,467
Kittson							158		3,335		7,564		8,532	1,129,381
Koochiching													352	51,609
Lac qui Parle					21		2,278		7,750		13,118		14,158	1,637,828
Lake					6		6		4		19		136	17,423
Le Sueur			367		2,109		5,079		6,974		8,539		8,979	1,048,177
Lincoln							1,036		3,501		8,007		8,811	960,787
Lyon							2,594		6,313		11,027		12,386	1,446,669
McLeod			69		1,114		4,176		7,692		9,276		9,632	1,286,712
Mahnomen													1,042	121,932
Mankahta														
Manomin			33											
Marshall							279		4,399		11,264		11,135	1,301,002
Martin			4		1,139		3,089		7,610		12,619		14,706	1,656,798
Meeker			101		998		4,473		8,070		10,421		11,242	1,507,310
Mille Lacs			5		98		213		533		2,240		3,521	382,260
Monongalia			10		578									
Morrison			79		237		1,307		3,559		7,188		8,237	919,638
Mower			325		2,886		9,120		11,031		13,710		14,329	1,737,569
Murray			2		17		1,440		4,736		10,654		11,709	1,309,051
Nicollet			397		1,904		5,926		8,612		8,701		8,638	1,016,301
Nobles							1,854		5,913		11,933		13,903	1,600,372
Norman									6,161		11,436		10,041	1,149,084
Olmsted			1,734		7,772		11,514		13,295		13,555		13,353	1,559,250
Otter Tail			9		173		5,515		14,039		22,949		23,350	2,579,804
Pembina	518													
Pennington													4,097	468,789
Pierce														
Pine			4		15		46		206		2,481		4,394	453,947
Pipestone							854		3,309		6,940		7,457	784,994
Polk			25				3,220		13,209		21,925		19,270	2,458,210
Pope					377		2,502		6,808		9,528		9,321	1,114,938
Ramsey	20		311		654		1,462		1,892		2,917		3,010	353,098
Red Lake											5,496		2,586	307,852
Redwood					48		2,373		6,555		14,154		14,993	1,733,351
Renville			51		424		4,665		12,789		17,243		18,365	2,211,604
Rice			1,002		3,842		7,679		9,276		10,097		10,557	1,225,664
Rock					17		2,261		5,521		8,474		10,043	1,249,401
Roseau											3,217		4,053	484,143
Saint Louis			4				102		339		1,051		2,767	367,384
Scott			348		2,095		4,133		5,184		6,280		6,611	802,173
Sherburne			155		441		1,449		2,832		3,912		4,413	493,468

TABLE XXV—Horses, Mules, and Asses in Minnesota by Counties, 1850-1910—*Continued*

Counties	1850	1860	1870	1880	1890	1900		1910	
	Number	Number	Number	Number	Number	Number	Value	Number	Value
Sibley		187	1,739	4,936	8,689	10,165		10,763	$ 1,277,978
Stearns		428	2,487	7,410	13,653	18,425		19,802	2,249,602
Steele		383	2,007	6,408	7,405	8,395		9,190	1,100,954
Stevens			36	1,726	3,768	8,034		7,189	872,291
Swift				2,664	5,944	10,804		10,696	1,263,542
Todd		50	75	1,578	3,857	8,743		9,342	976,652
Toombs									
Traverse			2	763	3,455	7,737		8,410	1,074,995
Wabasha	107	811	5,538	7,074	8,352	9,415		9,889	1,272,600
Wadena				525	1,025	2,863		2,871	305,932
Wahnahta	40								
Waseca		219	2,080	5,743	7,812	8,348		8,934	992,677
Washington	130	760	1,803	3,960	5,534	6,517		7,397	988,076
Watonwan			545	2,289	5,236	7,263		8,016	879,366
Wilkin			51	926	3,066	8,487		8,247	1,001,234
Winona		923	5,627	8,412	9,913	9,869		11,112	1,368,496
Wright		276	1,104	4,796	8,683	11,765		13,430	1,646,512
Yellow Medicine				2,410	6,851	12,404		13,468	1,528,385
Indian Reservations						1,152			
Totals for the State	874	17,442	95,361	266,301	471,020	704,969	$42,754,041	759,178	$89,824,452

TABLE XXVI.—Sheep and Goats on Farms in Minnesota by Counties, 1850-1910

Counties	1850	1860	1870	1880	1890	1900	1910	
	Number	Number	Number	Number	Number	Number	Number	Value
Aitkin				15	35	724	2,366	$ 7,506
Anoka		50	1,745	1,799	1,514	1,613	1,322	6,125
Becker			30	1,137	3,357	5,434	6,349	23,017
Beltrami					9	1,324	1,824	6,711
Benton		15	261	494	1,016	3,651	3,973	12,835
Big Stone			10	333	1,706	1,957	7,355	33,642
Blue Earth		110	6,690	9,060	5,825	14,011	11,634	50,458
Breckenridge								
Brown		61	995	3,078	4,582	3,446	4,470	18,788
Buchanan								
Carlton				27	98	646	1,313	4,949
Carver		120	5,501	7,135	5,267	5,568	4,085	15,920
Cass					199	529	2,538	9,624
Chippewa			395	1,692	4,165	4,433	4,074	21,964
Chisago		244	1,387	3,334	4,171	3,333	2,456	8,789
Clay				896	5,201	3,390	3,701	16,002
Clearwater							2,807	8,888
Cook							23	96
Cottonwood			39	5,512	23,260	12,560	14,842	65,679
Crow Wing					252	1,451	3,229	10,644
Dakota		650	3,065	3,503	14,778	6,313	6,995	28,844
Dodge		320	5,889	2,854	6,525	13,267	12,207	50,554
Douglas		10	1,017	5,181	6,416	6,365	5,674	20,627
Faribault		45	4,127	15,974	7,353	9,538	9,170	39,369
Fillmore		1,598	10,342	8,351	8,166	25,343	34,308	173,622
Freeborn		211	5,057	4,938	4,558	7,837	7,569	31,913
Goodhue		678	6,241	7,261	10,222	10,846	12,717	51,624
Grant			106	1,056	3,645	5,876	4,157	15,487
Hennepin		305	5,672	9,841	4,904	4,076	4,290	20,609
Houston		720	4,697	4,688	4,800	7,204	12,792	51,204
Hubbard					105	1,008	2,344	8,566
Isanti			975	2,700	5,350	4,559	2,456	6,658
Itasca						218	539	2,355
Jackson			413	4,538	12,482	11,875	13,360	57,939
Kanabec				15	500	3,336	3,736	13,510
Kandiyohi			742	8,133	7,824	6,006	7,452	32,506
Kittson				49	1,302	4,289	4,708	19,427
Koochiching							98	431
Lac qui Parle			25	944	5,280	2,771	3,599	14,610

TABLE XXVI—Sheep and Goats on Farms in Minnesota by Counties, 1850-1910—*Continued*

Counties	1850		1860		1870		1880		1890		1900		1910	
	Number		Number		Number		Number		Number		Number		Number	Value
Lake					7		18		56		15		5	$ 14
Le Sueur			161		5,233		6,795		3,325		6,393		5,774	22,202
Lincoln							976		8,422		11,351		7,089	27,459
Lyon							3,351		10,210		12,481		12,979	60,451
McLeod					3,489		5,632		4,620		5,226		5,272	20,610
Mahnomen													132	559
Mankahta														
Manomin														
Marshall							17		2,702		15,302		10,647	42,958
Martin					749		14,615		11,328		9,523		12,150	56,511
Meeker			38		2,936		6,166		4,477		4,504		7,264	31,304
Mille Lacs					155		219		471		2,020		2,234	8,566
Monongalia					2,468									
Morrison			55		570		939		4,453		5,704		6,731	21,245
Mower			176		1,945		3,025		7,002		18,281		12,790	67,968
Murray					115		1,566		5,910		26,080		18,694	87,836
Nicollet			391		1,619		4,881		3,757		5,825		3,706	15,889
Nobles							8,275		10,749		16,136		23,522	113,172
Norman									4,908		6,177		6,095	21,891
Olmsted			3,348		4,918		8,693		14,538		29,374		34,841	153,681
Otter Tail					465		5,153		11,896		18,714		19,592	69,746
Pembina	2													
Pennington													4,644	15,630
Pierce														
Pine					11		2		298		2,253		4,069	15,987
Pipestone							78		1,509		11,795		21,617	93,461
Polk							747		9,853		12,429		11,433	49,662
Pope					964		5,004		4,719		4,272		3,665	15,420
Ramsey	45		4		298		219		583		875		1,368	5,279
Red Lake											5,005		1,755	6,323
Redwood					250		4,672		9,713		10,610		9,025	36,362
Renville			5		833		4,013		8,406		7,075		7,904	31,536
Rice			1,078		7,907		8,973		7,035		8,827		5,808	24,251
Rock					9		1,082		3,641		12,623		16,958	91,666
Roseau											4,568		7,114	22,809
Saint Louis							169		254		255		868	3,014
Scott			118		3,863		4,785		4,100		5,863		5,435	21,952
Sherburne			115		1,112		1,873		674		2,561		2,454	10,328
Sibley			195		3,666		6,627		5,135		7,877		6,498	23,224
Stearns			227		6,174		8,703		7,320		13,438		13,461	45,318
Steele			481		2,785		4,207		5,705		8,025		2,432	9,671
Stevens					32		223		2,190		4,374		10,497	44,470
Swift							1,202		4,126		2,810		3,414	13,439
Todd					378		1,761		5,043		9,434		7,783	27,532
Toombs														
Traverse							9		367		1,347		3,412	15,839
Wabasha	26		66		2,819		1,582		6,910		13,131		24,172	95,708
Wadena							25		1,323		3,675		4,026	16,959
Wahnahta														
Waseca			197		2,617		2,980		4,342		7,165		6,725	28,362
Washington	7		557		2,179		1,986		2,392		3,428		3,176	14,275
Watonwan					446		3,080		5,943		11,190		6,006	26,360
Wilkin					11		43		1,061		2,741		3,440	16,150
Winona			555		3,287		5,123		5,530		12,245		16,360	65,231
Wright			140		2,612		11,698		9,665		9,345		4,926	18,767
Yellow Medicine							1,873		7,521		6,451		5,676	23,365
Indian Reservations											109			
Totals for the State	80		13,044		132,343		267,598		399,049		593,699	$1,751,861	642,170	$2,711,904

TABLE XXVII—Swine on Farms in Minnesota by Counties, 1850-1910

Counties	1850	1860	1870	1880	1890	1900	1910	
	Number	Number	Number	Number	Number	Number	Number	Value
Aitkin				21	236	1,399	1,568	$ 13,625
Anoka		741	682	2,368	4,088	5,179	4,396	46,802
Becker			6	1,267	2,632	5,170	5,906	60,942
Beltrami					35	759	1,430	14,239
Benton	54	199	168	1,333	3,003	5,951	6,403	58,443
Big Stone			2	469	2,843	7,506	9,776	97,998
Blue Earth		2,389	5,652	16,136	31,951	33,727	42,714	410,526
Breckenridge								
Brown		1,232	1,796	6,230	14,292	20,334	29,539	267,688
Buchanan								
Carlton		10		32	113	859	1,480	13,091
Carver		5,376	7,874	10,991	17,983	23,037	26,706	186,088
Cass				4	191	986	1,651	13,341
Chippewa			256	1,146	3,649	18,500	21,926	210,625
Chisago		1,251	988	2,567	3,199	5,357	5,519	66,294
Clay			16	809	4,957	8,232	6,149	71,066
Clearwater							1,349	10,995
Cook					6	22	24	333
Cottonwood		4	32	3,365	4,613	17,660	26,699	257,127
Crow Wing			67	88	915	2,866	2,716	23,987
Dakota		5,149	6,232	9,970	16,132	17,429	20,455	195,787
Dodge		2,676	2,824	7,310	15,131	23,221	21,326	199,762
Douglas		59	983	3,225	4,830	8,964	11,285	87,808
Faribault		569	3,394	15,146	31,355	43,283	44,406	435,309
Fillmore		9,605	10,809	31,083	48,697	83,135	56,381	568,675
Freeborn		970	3,523	10,458	36,256	46,251	47,911	390,790
Goodhue		3,872	6,671	10,728	29,944	30,282	23,253	216,252
Grant			33	811	2,862	5,389	5,795	60,863
Hennepin		7,928	5,592	10,560	19,214	21,203	21,565	178,838
Houston		4,050	6,305	27,829	40,917	53,300	43,935	365,909
Hubbard					551	988	1,608	19,679
Isanti		158	395	1,365	2,704	3,387	3,225	33,568
Itasca	2				27	538	756	7,892
Jackson		17	251	2,771	8,859	32,980	36,456	362,927
Kanabec		11		94	288	1,379	1,524	15,588
Kandiyohi		39	172	2,266	4,329	11,755	21,103	208,252
Kittson				21	3,607	4,692	3,619	36,062
Koochiching							136	1,419
Lac qui Parle			19	1,550	6,452	22,138	29,896	287,840
Lake			8	2			94	982
Le Sueur		10,164	9,337	17,012	26,100	21,367	27,431	213,188
Lincoln				787	2,129	17,485	14,016	131,432
Lyon				2,534	5,852	30,473	25,498	261,909
McLeod		486	1,039	5,685	12,101	18,379	27,145	195,585
Mahnomen							646	5,818
Mankahta								
Manomin		69						
Marshall				82	5,332	7,283	5,707	61,412
Martin		32	2,492	7,178	21,525	37,929	46,559	462,079
Meeker		515	2,687	3,644	6,010	10,275	19,421	192,571
Mille Lacs		24	170	179	893	2,227	2,362	22,737
Monongalia		98	649					
Morrison		713	593	2,278	5,318	11,324	12,637	101,702
Mower		849	2,973	12,047	20,297	44,747	29,689	327,228
Murray		8	10	1,385	3,949	31,721	27,436	278,363
Nicollet		1,468	1,982	5,819	21,140	19,689	20,770	206,119
Nobles				2,396	9,344	48,581	41,003	386,143
Norman					4,129	6,777	5,527	51,724
Olmsted		6,123	7,298	12,455	34,409	38,714	39,192	345,477
Otter Tail		20	411	5,389	13,240	20,271	27,462	245,534
Pembina	115							
Pennington							1,981	19,287
Pierce								
Pine		25	30	47	416	2,452	4,300	34,457
Pipestone				659	2,763	18,468	20,609	181,478
Polk				1,382	13,755	16,317	11,795	122,503
Pope			790	1,711	4,031	8,696	9,074	93,309
Ramsey	69	1,331	1,357	1,627	2,690	4,019	4,574	48,924
Red Lake						4,375	2,318	19,191
Redwood			47	2,496	7,050	23,054	32,965	301,589
Renville		113	285	4,639	11,595	28,821	42,677	377,515
Rice		5,232	7,324	9,860	20,984	22,967	25,549	224,869
Rock			11	3,663	17,003	45,976	40,310	385,269
Roseau						1,782	2,424	24,035
Saint Louis		3		112	330	521	1,659	14,574
Scott		4,060	6,654	9,218	15,654	18,785	18,395	148,649
Sherburne		220	542	1,418	4,921	7,340	6,851	68,787

TABLE XXVII—Swine on Farms in Minnesota by Counties, 1850-1910—*Continued*

Counties	1850 Number	1860 Number	1870 Number	1880 Number	1890 Number	1900 Number	1910 Number	1910 Value
Sibley		3,082	3,990	7,334	18,512	21,401	28,535	$ 214,803
Stearns		3,266	6,237	11,106	16,413	29,936	40,476	306,068
Steele		744	2,006	7,129	15,519	26,090	29,617	227,413
Stevens			55	718	2,279	9,978	7,987	78,614
Swift				2,176	4,350	13,207	14,194	153,111
Todd		119	373	2,825	4,120	10,244	13,022	110,135
Toombs								
Traverse			2	131	2,714	6,353	8,283	90,527
Wabasha	134	3,336	8,238	11,294	38,255	31,021	22,410	197,259
Wadena				213	926	3,367	3,138	30,613
Wahnahta	4							
Waseca		1,167	3,188	7,317	15,231	24,036	21,951	191,775
Washington	362	3,492	2,870	4,966	11,015	12,404	12,309	118,247
Watonwan			815	2,872	12,681	18,022	20,537	214,415
Wilkin			44	269	2,295	5,713	5,333	53,216
Winona		4,375	6,278	14,100	23,924	31,211	34,586	288,273
Wright		3,932	2,946	9,565	19,329	29,653	40,109	326,646
Yellow Medicine				1,683	6,331	28,490	29,108	277,143
Indian Reservations						1,007		
Totals for the State	740	101,371	148,473	381,415	853,715	1,440,806	1,520,257	$13,929,127

TABLE XXVIII—Poultry on Farms in Minnesota by Counties, 1850-1910

Counties	1850 Number	1860 Number	1870 Number	1880 Number	1890 Number	1900 Number	1900 Value	1910 Number	1910 Value
Aitkin				170	2,092	14,465	$ 4,558	25,679	$ 11,480
Anoka				16,138	32,257	45,537	17,643	61,685	33,296
Becker				6,904	26,752	50,191	13,749	73,359	30,122
Beltrami					150	12,814	4,104	26,191	13,268
Benton				6,287	26,304	38,634	12,577	60,382	26,389
Big Stone				5,296	24,162	49,840	13,245	69,364	32,030
Blue Earth				89,991	144,916	240,382	66,027	262,705	116,156
Breckenridge									
Brown				45,501	97,756	143,153	32,095	204,295	73,721
Buchanan									
Carlton				1,057	1,713	8,818	3,258	24,914	12,476
Carver				63,924	101,233	137,172	39,752	184,135	72,978
Cass				12	2,127	13,626	3,693	23,875	11,201
Chippewa				12,492	37,508	90,936	24,103	137,676	51,910
Chisago				16,123	31,474	60,655	15,758	81,478	31,189
Clay				8,807	40,661	76,535	22,163	100,595	42,274
Clearwater								21,255	7,124
Cook				20	228	621	357	1,647	973
Cottonwood				17,959	49,145	106,670	29,764	149,210	60,529
Crow Wing				560	9,818	30,551	9,834	39,544	17,736
Dakota				70,262	127,277	122,338	41,836	144,203	77,662
Dodge				46,628	76,875	115,075	29,291	129,803	61,234
Douglas				20,386	46,193	90,510	19,520	128,284	47,438
Faribault				57,542	106,382	188,299	59,308	224,383	109,959
Fillmore				118,359	189,184	265,253	73,802	264,535	117,634
Freeborn				64,883	119,059	208,821	59,015	247,988	125,909
Goodhue				102,920	177,460	226,696	58,119	239,328	98,195
Grant				5,839	29,275	69,706	17,224	86,703	35,960
Hennepin				81,139	134,020	153,875	57,762	197,856	118,634
Houston				65,949	96,652	139,661	36,946	145,052	58,288
Hubbard					5,897	11,079	4,267	26,170	12,898
Isanti				11,963	34,354	54,617	13,729	73,129	22,904
Itasca					222	3,188	1,421	15,461	9,577
Jackson				16,242	54,949	158,710	44,777	195,602	85,870
Kanabec				255	2,981	14,749	3,553	27,460	12,612
Kandiyohi				25,311	57,865	105,924	25,137	169,825	67,575
Kittson				244	22,113	38,464	10,528	53,058	18,426
Koochiching								5,642	3,360
Lac qui Parle				11,926	51,047	116,490	33,381	173,502	73,960

TABLE XXVIII—Poultry on Farms in Minnesota by Counties, 1850-1910—*Continued*

Counties	1850 Number	1860 Number	1870 Number	1880 Number	1890 Number	1900 Number	1900 Value	1910 Number	1910 Value
Lake				97	189	974	$ 402	5,069	$ 3,524
Le Sueur				64,698	90,864	137,281	37,147	165,409	83,003
Lincoln				6,577	27,416	67,889	18,608	104,885	38,725
Lyon				15,315	43,969	110,500	32,570	157,941	73,019
McLeod				44,852	92,157	150,447	42,011	215,456	91,022
Mahnomen								7,821	3,190
Mankahta									
Manomin									
Marshall				634	32,715	66,079	18,688	91,901	32,615
Martin				25,087	76,589	177,261	52,191	232,674	113,338
Meeker				34,182	73,972	115,815	31,917	170,509	70,552
Mille Lacs					6,147	24,903	6,700	39,513	17,963
Monongalia									
Morrison				13,010	40,756	76,283	22,136	107,626	43,257
Mower				65,209	95,946	181,227	48,200	188,292	91,096
Murray				9,831	39,991	125,021	34,800	160,332	70,787
Nicollet				48,120	81,932	133,811	29,006	163,694	61,271
Nobles				13,958	52,298	154,034	43,874	185,219	86,758
Norman					41,771	69,443	16,712	98,413	38,133
Olmsted				97,542	137,661	199,389	54,230	215,944	98,172
Otter Tail				35,092	108,062	202,845	51,628	285,958	104,835
Pembina									
Pennington								41,662	16,640
Pierce									
Pine				659	4,878	31,198	8,487	60,776	25,424
Pipestone				3,802	25,609	75,737	18,458	96,070	46,250
Polk				12,298	104,681	139,425	44,427	184,945	80,390
Pope				14,307	42,662	80,868	23,117	111,980	43,926
Ramsey				15,473	26,583	32,393	12,148	51,184	33,526
Red Lake						44,288	12,321	23,159	10,647
Redwood				16,062	51,522	150,353	41,883	237,343	104,627
Renville				35,377	97,752	199,610	54,193	292,788	121,448
Rice				68,110	137,562	146,668	45,646	175,978	81,614
Rock				15,599	45,836	106,210	27,111	123,124	52,972
Roseau						20,102	7,383	42,492	16,641
Saint Louis				3,427	6,983	15,334	6,574	45,758	25,177
Scott				51,922	90,233	111,941	33,431	129,859	54,839
Sherburne				13,504	38,085	50,103	14,491	65,208	28,313
Sibley				50,536	106,513	162,932	43,171	224,797	86,605
Stearns				65,040	128,981	219,285	54,131	287,632	102,481
Steele				50,934	79,059	125,648	37,331	172,394	78,385
Stevens				6,978	24,225	59,031	17,549	77,906	33,950
Swift				19,728	44,625	84,852	24,116	122,282	50,414
Todd				13,920	37,422	88,897	23,939	131,936	55,735
Toombs									
Traverse				1,896	23,220	48,177	13,435	73,725	31,414
Wabasha				70,283	109,407	138,625	36,847	150,819	60,445
Wadena				1,859	10,331	27,390	8,588	37,840	17,813
Wahnahta									
Waseca				40,860	80,598	121,038	31,355	149,138	63,949
Washington				41,278	75,990	89,631	28,336	109,973	54,065
Watonwan				20,018	47,880	96,298	27,672	117,166	50,739
Wilkin				1,590	23,984	48,362	14,444	73,172	31,508
Winona				83,412	109,025	125,893	34,991	151,977	64,998
Wright				60,115	119,747	181,689	53,114	251,171	119,382
Yellow Medicine				14,105	48,282	119,018	31,902	190,192	78,436
Indian Reservations						4,440	942		
Totals for the State				2,258,385	4,744,211	8,142,693	$2,274,649	10,697,075	$4,646,960

TABLE XXIX—Bees on Farms in Minnesota by Counties, 1850-1910

Counties	1850		1860		1870		1880		1890		1900		1910	
											Number of swarms	Value	Number of swarms	Value
Aitkin														
Anoka											41	$ 222	294	$ 1338
Becker											206	858	180	724
Beltrami											15	74	89	468
Benton											30	221	159	855
Big Stone											729	2,677	757	2,752
Blue Earth													123	750
Breckenridge											1,829	6,007	2,084	7,151
Brown														
Buchanan											251	1,270	662	3,037
Carlton														
Carver											15	73	126	586
Cass											540	2,172	1,171	4,631
Chippewa											122	596	162	840
Chisago											121	595	265	1,210
Clay											837	3,112	574	2,557
Clearwater											1	5	90	464
Cook													41	217
Cottonwood													4	40
Crow Wing											238	1,315	314	1,223
Dakota											250	1,297	569	2,648
Dodge											652	2,594	833	3,754
Douglas											1,043	3,232	1,054	4,047
Faribault											455	1,942	455	1,757
Fillmore											1,138	4,323	1,331	4,783
Freeborn											1,893	7,030	3,094	11,282
Goodhue											926	3,077	1,107	4,101
Grant											1,873	6,086	2,119	7,366
Hennepin											79	302	32	143
Houston											1,556	5,294	2,042	8,950
Hubbard											911	2,321	1,028	3,351
Isanti											3	15	18	156
Itasca											620	2,159	382	1,293
Jackson														
Kanabec											278	1,113	305	1,181
Kandiyohi											402	1,314	607	2,648
Kittson											194	692	201	932
Koochiching											4	8	37	242
Lac qui Parle													20	195
Lake											195	714	178	890
Le Sueur													5	30
Lincoln											1,422	4,470	1,244	3,982
Lyon											114	487	299	1,430
McLeod											195	741	797	3,850
Mahnomen											868	3,204	1,081	3,905
Mankahta														
Manomin														
Marshall														
Martin											6	30	49	269
Meeker											911	3,804	858	3,635
Mille Lacs											823	3,150	607	2,254
Monongalia											1,253	4,048	787	3,269
Morrison														
Mower											1,716	6,771	1,396	5,139
Murray											1,258	4,318	1,632	6,014
Nicollet											84	372	482	1,940
Nobles											567	1,903	942	3,588
Norman											47	182	646	3,011
Olmsted											38	180	51	270
Otter Tail											1,247	4,628	1,466	5,783
Pembina											835	3,622	1,384	6,076
Pennington														
Pierce													113	487
Pine														
Pipestone											746	2,637	618	2,509
Polk											7	22	95	450
Pope											273	1,467	577	3,317
Ramsey											145	536	85	408
Red Lake											279	1,052	110	570
Redwood											241	1,232	183	796
Renville											301	1,291	973	4,339
Rice											255	1,081	783	3,261
Rock											990	3,241	1,040	3,885
Roseau											66	348	357	1,630
Saint Louis														
Scott											102	571	41	290
Sherburne											996	3,002	950	2,948
											251	787	150	609

TABLE XXIX—Bees on Farms in Minnesota by Counties, 1850-1910—*Continued*

Counties	1850		1860		1870		1880		1890		1900		1910	
											Number of swarms	Value	Number of swarms	Value
Sibley											830	$ 3,261	1,105	$ 3,652
Stearns											1,641	6,027	1,338	5,072
Steele											630	1,889	892	3,297
Stevens											171	791	108	445
Swift											59	293	158	633
Todd											1,562	6,365	1,593	5,370
Toombs														
Traverse											9	45	60	333
Wabasha											2,024	6,286	1,971	7,330
Wadena											664	3,094	355	1,528
Wahnahta														
Waseca											525	1,931	1,142	4,876
Washington											672	3,060	987	4,187
Watonwan											283	1,295	492	2,210
Wilkin											8	40	4	24
Winona											1,649	5,712	1,787	6,826
Wright											1,473	4,447	1,837	5,270
Yellow Medicine											194	857	540	2,222
Indian Reservations														
Totals for the State											45,877	$167,280	56,677	$221,781

TABLE XXX—Animals Sold and Slaughtered on Farms in Minnesota by Counties, 1850-1910

Counties	1850		1860		1870		1880		1890		1900		1910	
				Value		Value						Value		Value
Aitkin												$ 23,258		$ 95,946
Anoka				$ 6,262		$ 10,612						103,101		171,829
Becker						150						134,950		258,435
Beltrami												13,696		73,345
Benton				2,544		4,094						98,402		240,622
Big Stone												105,991		277,609
Blue Earth				13,899		147,653						545,775		849,903
Breckenridge														
Brown				7,047		21,673						297,105		541,408
Buchanan														
Carlton				330								23,659		83,281
Carver				29,122		77,971						294,790		592,727
Cass												20,672		116,505
Chippewa												214,311		396,193
Chisago				7,903		25,014						173,487		264,744
Clay						90						189,520		317,930
Clearwater														93,185
Cook												765		4,495
Cottonwood				56		150						249,398		619,022
Crow Wing						840						56,466		124,072
Dakota				38,395		140,813						322,182		646,597
Dodge				17,206		45,912						343,281		652,455
Douglas				630		9,073						173,720		376,496
Faribault				8,282		81,538						591,802		991,051
Fillmore				56,649		265,363						956,755		1,858,863
Freeborn				8,582		84,091						694,728		1,006,544
Goodhue				25,310		175,551						529,143		816,771
Grant						280						121,617		231,361
Hennepin				153,620		149,908						328,221		659,272
Houston				34,305		114,202						703,657		958,729
Hubbard												14,071		85,543
Isanti				556		10,120						98,539		179,183
Itasca												5,048		29,269
Jackson				16		6,590						384,667		865,472
Kanabec				550								32,366		92,739
Kandiyohi				73		3,909						251,638		596,348
Kittson												119,163		188,447
Koochiching														8,992
Lac qui Parle												226,508		555,605
Lake						200						155		7,938
Le Sueur				42,499		188,613						292,914		487,834
Lincoln												205,150		389,534
Lyon												329,347		816,309
McLeod				3,372		40,364						292,899		494,511
Mahnomen														17,282
Mankahta														
Manomin				1,250										
Marshall												200,119		326,629

TABLE XXX—Animals Sold and Slaughtered on Farms in Minnesota by Counties, 1850-1910—*Continued*

Counties	1850	1860	1870	1880	1890	1900	1910
	Value	Value	Value			Value	Value
Martin		$ 296	$ 23,003			$ 488,387	$ 1,193,422
Mecker		2,805	1,314			259,867	693,017
Mille Lacs		130	4,418			47,798	158,905
Monongalia		305	13,874				
Morrison		2,194	8,008			156,618	352,842
Mower		7,522	80,335			631,013	953,550
Murray		113	460			340,057	732,486
Nicollet		11,146	54,193			277,026	412,642
Nobles						462,469	1,208,519
Norman						160,090	300,736
Olmsted		36,603	178,730			605,174	1,307,030
Otter Tail			676			440,709	925,698
Pembina							
Pennington							202,649
Pierce							
Pine		122	1,000			45,538	172,498
Pipestone						209,923	513,624
Polk		700				350,623	629,349
Pope			4,529			204,796	328,470
Ramsey		8,342	31,350			43,415	108,397
Red Lake						103,156	101,126
Redwood			1,018			340,356	764,926
Renville		60	2,606			376,945	757,432
Rice		35,066	149,623			386,512	694,882
Rock			50			385,498	931,527
Roseau						45,524	163,793
Saint Louis		425				13,412	114,672
Scott		25,857	119,881			284,862	400,461
Sherburne		4,656	18,509			126,133	224,463
Sibley		15,060	125,679			332,238	506,304
Stearns		19,282	128,441			499,555	1,039,861
Steele		10,457	55,872			368,123	654,099
Stevens			340			136,462	263,260
Swift						174,312	379,198
Todd		525	4,786			172,095	448,782
Toombs							
Traverse						96,348	233,127
Wabasha	$1,950	25,666	128,702			406,374	683,893
Wadena						67,469	130,062
Wahnahta							
Waseca		8,595	67,536			327,594	436,484
Washington	890	25,430	35,832			293,730	503,530
Watonwan			11,625			280,571	512,664
Wilkin			1,790			72,342	192,156
Winona		30,401	163,470			447,139	860,760
Wright		21,328	54,226			418,366	833,935
Yellow Medicine						307,977	577,759
Indian Reservations						5,041	
Totals for the State	$2,840	$751,544	$3,076,650			$20,954,673	$41,064,015

TABLE XXXI—Production of Wool and Mohair on Farms in Minnesota by Counties, 1850-1910

Counties	1850	1860	1870	1880	1890	1900	1910
	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Value
Aitkin				50	74	2,800	$ 1,969
Anoka		136	5,246	8,548	12,358	7,560	979
Becker			108	4,737	14,321	19,550	6,125
Beltrami					35	3,060	906
Benton			1,261	2,433	4,499	15,640	3,958
Big Stone				1,420	7,244	8,424	6,189
Blue Earth			22,586	44,609	31,564	61,745	14,319
Breckenridge							
Brown		55	1,986	15,298	24,410	14,464	4,921
Buchanan							
Carlton				95	307	2,767	1,057
Carver		211	16,313	33,830	30,713	25,717	4,191
Cass					847	2,090	2,076
Chippewa			1,365	7,309	16,522	19,260	3,723
Chisago		647	3,688	11,293	11,590	10,598	2,057
Clay				3,605	19,975	13,467	4,702
Clearwater							2,755
Cook							27
Cottonwood				34,307	110,661	55,209	18,098
Crow Wing					1,368	5,598	2,123
Dakota		1,302	7,874	19,692	25,978	31,660	7,643

TABLE XXXI—PRODUCTION OF WOOL AND MOHAIR ON FARMS IN MINNESOTA BY COUNTIES, 1850-1910—*Continued*

COUNTIES	1850	1860	1870	1880	1890	1900	1910
		Pounds	Pounds	Pounds	Pounds	Pounds	Value
Dodge			20,808	14,875	33,610	57,631	$ 15,689
Douglas			1,992	23,645	24,961	23,700	5,033
Faribault		7	12,712	76,370	46,614	47,660	8,721
Fillmore		4,414	27,137	50,037	40,997	120,484	42,573
Freeborn		590	15,000	23,975	22,213	35,873	6,592
Goodhue		831	21,298	38,879	70,209	52,560	24,091
Grant			174	4,347	15,730	23,450	4,015
Hennepin		596	12,034	57,073	27,865	17,684	3,303
Houston		2,549	14,286	22,582	21,026	29,498	13,582
Hubbard					471	3,380	2,086
Isanti			2,607	10,445	17,596	11,256	1,688
Itasca						870	253
Jackson			1,328	22,458	50,208	54,982	16,814
Kanabec				75	1,831	10,960	2,410
Kandiyohi			2,025	35,021	33,016	24,800	8,151
Kittson				196	4,641	15,060	5,303
Koochiching							32
Lac qui Parle			100	4,605	24,357	11,176	2,917
Lake				65	120	54	2
Le Sueur		731	18,652	32,909	21,214	29,857	5,666
Lincoln				5,070	41,243	46,763	9,044
Lyon				17,872	57,834	52,475	13,457
McLeod			11,470	28,646	26,283	22,311	5,956
Mahnomen							85
Mankahta							
Manomin							
Marshall				69	10,009	51,677	10,920
Martin			2,210	68,726	58,188	47,428	12,829
Meeker			7,878	34,311	22,340	19,930	9,133
Mille Lacs			380	1,244	1,392	8,207	1,585
Monongalia			10,515				
Morrison		6	1,491	4,002	15,024	22,290	4,771
Mower			7,670	16,403	40,822	83,360	13,620
Murray				8,337	21,610	111,498	17,076
Nicollet		279	5,389	25,847	17,238	24,974	2,848
Nobles				41,578	59,090	74,900	25,540
Norman					19,828	20,450	5,639
Olmsted		1,484	18,082	57,421	103,944	137,397	45,190
Otter Tail			343	21,380	43,946	65,760	16,689
Pembina							
Pennington							3,882
Pierce							
Pine			43	8	1,151	8,110	3,453
Pipestone				471	4,683	54,752	26,446
Polk				3,002	38,493	44,238	11,658
Pope			2,757	20,888	19,024	16,140	2,657
Ramsey			1,500	806	3,036	4,025	4,011
Red Lake						17,504	2,117
Redwood			900	32,872	50,985	47,947	8,815
Renville			1,735	21,504	40,417	30,612	6,297
Rice		620	20,607	42,566	49,058	38,227	7,267
Rock				6,492	15,747	56,177	20,730
Roseau						12,950	6,924
Saint Louis				676	875	1,027	673
Scott		199	13,446	23,776	21,896	24,243	6,134
Sherburne		227	2,556	9,026	3,445	9,592	2,647
Sibley		335	19,600	32,435	22,209	32,790	5,917
Stearns			17,701	37,981	32,594	53,670	10,405
Steele		1,233	7,172	21,071	31,413	38,020	2,732
Stevens			111	1,182	11,582	19,234	11,587
Swift				5,341	16,703	12,320	3,761
Todd			1,054	8,519	20,205	35,660	6,456
Toombs							
Traverse				25	1,538	5,184	4,407
Wabasha	75		4,416	10,622	42,182	63,023	28,882
Wadena				137	6,090	14,262	3,383
Wahnahta							
Waseca		297	6,206	15,330	27,341	29,592	8,029
Washington	10	1,381	6,806	9,308	13,492	18,230	4,750
Watonwan			988	14,715	23,017	48,655	5,708
Wilkin				87	4,368	11,480	3,144
Winona		1,897	10,615	32,583	55,378	138,800	21,439
Wright		361	6,964	55,564	48,614	38,367	4,869
Yellow Medicine				9,448	31,777	28,108	5,657
Indian Reservations						390	
Totals for the State	85	20,388	401,185	1,352,124	1,945,249	2,613,293	$695,958

TABLE XXXII—Dairy Products in Minnesota

	Counties	1850	1860		1870			1880			1890		
		Butter, pounds of, produced	Butter, pounds of, produced	Cheese, pounds of, produced	Milk sold, gallons	Butter, pounds of, produced	Cheese, pounds of, produced	Milk sold or sent to butter and cheese factories, gallons	Butter made on farms, pounds	Cheese made on farms, pounds	Milk produced on farms, gallons	Butter made on farms, pounds	Cheese made on farms, pounds
1	Aitkin							315	700		165,130	29,345	200
2	Anoka		38,610	5,220		51,240	1,055	49,882	214,364	1,860	1,701,684	381,375	1,526
3	Becker							4,525	137,028	2,800	1,429,589	309,182	15,911
4	Beltrami										49,060	7,250	50
5	Benton		6,079	530		17,620	5,125		84,795	4,730	891,185	167,114	380
6	Big Stone					910		1,666	40,615	250	835,915	194,855	8,035
7	Blue Earth		82,367	3,920	11,100	487,971	12,090	2,710	704,895	6,718	4,407,539	1,018,695	22,801
8	Breckenridge												
9	Brown		62,505	5,950		94,993	2,070	3,701	396,883	10,256	2,484,714	633,235	12,557
10	Buchanan												
11	Carlton		100						8,670		88,790	13,621	
12	Carver		91,410	4,429	140	211,497	1,230	351	276,974	9,008	2,900,436	585,490	21,730
13	Cass								500		45,290	880	
14	Chippewa					64,030		25	127,744	4,870	1,178,915	249,102	2,775
15	Chisago		15,891	1,336	110	100,975	1,485	37,632	164,756	11,553	1,844,455	385,529	7,911
16	Clay					300		5,840	75,740	2,416	2,198,573	460,683	2,560
17	Clearwater												
18	Cook							225	265		483	80	
19	Cottonwood		500	50		3,100		490	213,097	7,010	1,719,088	488,025	10,680
20	Crow Wing					970		626	6,600	4,000	447,507	104,177	1,128
21	Dakota		148,777	12,105	4,940	457,400	3,450	7,110	487,980	3,545	4,785,064	815,759	9,720
22	Dodge		72,755	11,392	7,000	277,667	10,021	16,215	400,597	41,763	4,289,399	493,800	72,321
23	Douglas		2,700		76	90,574	324	1,034	274,302	13,945	1,762,062	443,685	8,718
24	Faribault		34,735	2,850	30	259,645	17,891	30,590	616,758	15,656	3,875,222	964,977	1,710
25	Fillmore		387,853	18,848		595,114	17,645	11,350	816,197	28,305	7,840,404	606,145	7,840
26	Freeborn		78,055	6,418		380,652	2,340	32,089	623,219	6,145	5,894,908	1,017,286	39,442
27	Goodhue		159,256	4,041	7,350	470,201	16,967	20,277	723,368	22,960	7,237,969	1,012,938	51,850
28	Grant					8,368			165,805	2,822	1,186,912	297,027	6,870
29	Hennepin		204,580	11,315	73,570	333,146	7,341	314,772	558,729	8,500	4,339,030	916,043	24,017
30	Houston		137,046	5,292	380	229,183	6,790	501	364,364	6,472	4,447,986	445,391	11,253
31	Hubbard										137,493	41,735	
32	Isanti		4,600	490		58,331	175	11,791	106,526	2,377	1,033,319	226,957	1,740
33	Itasca										5,410	780	
34	Jackson		715			35,510	1,110	320	192,548	560	2,139,260	508,525	6,600
35	Kanabec		1,050		40	300	100		5,155		264,015	59,984	
36	Kandiyohi		1,100		100	25,983	100	200	373,650	8,373	2,626,107	530,532	6,987
37	Kittson								60		932,883	156,786	2,919
38	Koochiching												
39	Lac qui Parle					6,010		92	173,471	650	2,024,474	411,874	3,801
40	Lake							330	2,200		7,815	900	
41	Le Sueur		96,773	3,190	180	320,985	945	11,024	362.963	530	2,264,946	580,042	2,317
42	Lincoln							50	52,201	810	1,084,094	228,360	620
43	Lyon							3,645	200,496	675	1,646,879	403,024	1,145
44	McLeod		22,290	1,520		168,438	11,072	31,805	485,206	8,615	3,096,165	563,231	17,114
45	Mahnomen												
46	Mankahta												
47	Manomin		1,810	524									
48	Marshall								935		1,408,163	282,325	18,540
49	Martin		1,425			114,473	1,190	57,638	307,480	1,590	2,780,006	568,558	2,480
50	Meeker		14,780	261	1,100	142,771	685	25	302,852	3,641	2,429,439	538,014	9,722
51	Mille Lacs		620			22,667			22,680	1,900	314,855	56,965	250
52	Monongalia		2,115			67,047	2,482						
53	Morrison		5,697	150		20,005		3,565	108,965	420	1,435,848	340,120	375
54	Mower		47,440	6,636	45	295,896	2,130	31,421	531,670	5,340	5,634,055	843,456	3,625
55	Murray		1,080	50		3,900	150	60	106,019	525	1,329,640	381,534	5,990
56	Nicollet		96,693	4,574	5,247	250,844	11,163	6,320	405,287	7,725	3,325,680	564,331	12,090
57	Nobles							270	150,604	1,190	1,548,674	433,291	7,597
58	Norman										2,080,488	400,557	6,590
59	Olmsted		148,468	23,629	8,980	654,455	16,480	259,698	675,133	55,489	6,321,047	749,810	11,457
60	Otter Tail		2,150			14,525		7,534	486,696	29,868	4,453,127	1,088,869	62,143
61	Pembina												
62	Pennington												
63	Pierce												
64	Pine		190			500			2,384		258,205	66,238	347
65	Pipestone							1,028	28,638	50	745,993	176,469	7,175
66	Polk		1,450	400				1,565	110,253	738	4,157,202	981,314	16,162
67	Pope					65,375	1,310	100	281,593	5,850	2,078,505	484,133	4,099
68	Ramsey		17,623	2,000	12,000	91,185	10,700	113,181	153,499	11,390	1,472,518	126,479	800
69	Red Lake												
70	Redwood					5,275	2,900	405	191,498	3,820	2,535,603	480,410	13,225
71	Renville		400			40,185	610	21	429,914	13,142	3,730,730	815,113	6,123
72	Rice		148,096	20,110	9,618	364,260	15,311	91,271	491,640	1,745	5,282,804	736,081	6,213
73	Rock					2,900		807	127,418	3,286	1,448,339	395,429	100
74	Roseau												
75	Saint Louis		715	200				4,575	18,695		261,614	44,565	
76	Scott		124,622	4,500		319,142	1,500	230	325,603	3,201	2,517,160	466,890	1,660
77	Sherburne		16,145	2,210		53,610	12,250	1,602	160,549	32,374	1,537,750	289,531	475

by Counties, 1850-1910

1900							1910									
Milk produced on farms, gallons	Milk, gallons sold	Cream, gallons sold	Butter made on farms, pounds	Butter, pounds sold	Cheese made on farms, pounds	Cheese, pounds sold	Milk produced on farms, gallons	Milk, gallons sold	Cream, gallons sold	Butter fat, pounds sold	Butter produced on farms, pounds	Butter sold, pounds	Cheese produced, pounds	Cheese sold, pounds	Counties
723,078	28,159	954	151,946	60,870	1,700		1,719,143	11,741	27,332	110,875	270,693	103,629	60	10	1
2,365,627	458,044	773	475,589	310,647			2,799,544	752,698	26,034	138,130	453,389	309,736			2
2,867,568	355,887	39,186	452,571	206,076	2,625	348	3,942,948	50,922	32,795	418,919	568,194	278,844	2,003	1,685	3
696,600	52,578		130,831	50,513	842	510	936,664	48,539	1,801	33,366	244,644	107,333	870	80	4
1,341,980	121,669	483	299,046	160,640	3,630	3,412	2,333,641	119,285	103,946	569,153	179,121	53,582	226		5
1,215,948	75,554	21	233,227	94,332	2,398	1,745	1,012,097	41,681	35,044	99,016	189,373	80,648	210		6
7,712,792	3,997,673	302	761,762	414,271	616	452	3,166,097	1,825,433	80,551	612,443	647,760	461,601	3,600	3,500	7
															8
4,986,269	3,476,998		256,217	106,922	6,110	4,985	4,316,757	1,686,773	105,347	479,754	166,414	69,383	1,900	1,700	9
															10
777,135	104,898	31	149,947	67,442			1,636,097	87,108	18,753	138,291	293,527	154,824			11
5,476,434	3,454,350	2,639	347,481	251,842	3,605	2,842	5,086,733	1,683,289	68,745	928,738	458,285	373,193	258		12
550,368	32,012		121,699	50,159			896,037	2,459	17,794	105,551	196,017	88,294	60		13
2,364,608	747,354	204	308,662	135,385	2,870	2,632	2,253,208	84,826	72,660	95,692	449,765	201,760			14
3,973,945	2,217,392		300,947	145,092	1,467	421	4,532,794	1,042,083	13,103	1,028,951	152,008	98,058	651	638	15
3,067,038	203,482	13,804	578,407	355,189	2,194	1,726	2,988,286	299,971	38,528	170,771	656,048	340,283	150		16
							1,621,339	3,702	8,444	121,563	282,494	154,978	960	650	17
23,533	745		2,161	308			56,196	2,705			14,324	3,757			18
3,382,064	896,739	6,714	538,430	305,388	441	205	2,355,285	18,639	22,525	859,921	220,087	46,751			19
1,110,512	92,157	420	219,702	122,682	1,470	1,230	1,467,812	83,738	23,467	34,387	350,966	214,767	245	95	20
4,362,537	844,803	7,799	797,244	489,023	2,070	1,508	3,606,034	1,004,442	68,873	319,816	676,998	406,673			21
5,351,284	1,465,470	108,262	695,089	494,233	31,059	28,734	4,856,057	1,615,633	131,309	498,999	640,268	473,813	1,300	300	22
3,193,056	311,322	525	595,731	240,077	1,836		4,001,506	306,215	58,003	738,237	434,877	146,194	3,056	3,056	23
6,449,137	3,887,923	4,050	444,950	300,805			4,068,323	1,060,202	114,047	606,760	344,581	259,491	85		24
8,592,890	2,296,828	196,411	1,134,698	597,760	106	103	6,567,474	102,524	84,176	1,070,904	868,936	394,853	115	50	25
12,101,481	8,616,669	4,352	673,720	489,194	6,989	6,502	5,781,089	4,539,932	83,586	519,429	750,510	586,890			26
7,899,332	2,015,516	185,634	1,095,294	582,870	5,353	5,075	6,413,763	2,290,626	207,637	1,166,835	435,185	126,927	6,998	950	27
2,196,513	98,760		462,449	241,326	1,236	660	1,866,396	5,844	46,516	297,576	300,858	95,048	8,400	8,400	28
9,992,644	5,880,054	22,624	875,874	493,143	27,775	25,583	9,144,685	5,953,533	47,361	293,000	785,446	507,635	9,583	8,861	29
4,875,100	888,900	233,020	553,550	251,960	210	50	3,834,781	17,776	79,015	583,257	611,326	361,985	3,500	2,600	30
306,348	29,267		52,676	19,934	535		780,537	47,069	13,639	15,575	185,195	89,571	275	20	31
2,305,812	268,256	2,788	382,082	171,417	1,571		2,819,457	534,880	13,006	398,215	305,332	106,267	25		32
115,024	7,395		25,904	11,295			558,751	45,918	4,923		124,685	56,446	705		33
4,299,776	1,227,020	2,662	705,983	470,954	6,646	6,242	3,629,828	48,231	92,906	607,880	544,011	361,469			34
1,034,223	84,245		218,968	125,312	834	142	1,766,232	89,853	34,712	296,429	201,582	33,756	400	300	35
5,038,863	2,399,647	1,163	455,967	217,780	6,937	5,794	4,865,632	445,164	57,696	462,885	926,088	590,514	4,300	4,000	36
1,339,668	51,146		253,042	82,416	4,590	172	2,377,142	6,742	16,544	188,442	369,014	138,066	1,125	30	37
							127,209	1,082			28,176	7,901	80		38
3,375,101	491,221	139	671,879	326,113	2,700	1,331	2,642,338	36,294	40,763	271,610	557,519	235,295	534	384	39
23,280	14,190		1,416	308			120,370	44,123	206		9,588	2,839			40
4,446,628	1,564,579		558,878	315,117			2,201,098	967,664	203,848	112,505	258,716	137,419			41
2,263,635	442,985		365,095	162,951	646		2,887,184	49,371	35,338	696,414	254,594	71,430	150		42
3,271,074	202,290	61	758,461	429,304	8,940	8,201	1,465,967	64,881	59,276	515,316	294,028	97,267	190		43
5,980,982	3,353,000	91	499,708	318,059	1,714	1,464	4,213,903	1,563,203	12,855	716,424	787,174	489,029	200	90	44
							249,501	6,790	5,672	10,037	48,440	20,105			45
															46
															47
2,840,360	94,020	102	557,056	172,456	2,636	164	3,814,474	18,234	125,161	386,242	673,840	237,470	3,072	1,330	48
5,424,511	2,206,276	9,256	687,588	440,813	4,040	3,518	3,309,385	282,280	75,053	849,438	388,873	193,444	400	300	49
5,777,546	3,883,898	52	306,466	178,092	1,082	406	5,857,347	858,944	26,780	1,644,961	80,001	24,932			50
1,040,112	94,294	41	201,108	98,932	103		2,977,856	18,790	14,111	832,827	126,128	39,017	60		51
															52
2,475,365	147,409	3,485	549,476	260,862	158	20	5,621,543	136,720	111,383	964,205	469,663	167,612	595	540	53
6,531,436	2,906,102	63,986	659,746	408,507	31.405	30,694	4,123,224	733,308	95,152	599,744	686,515	467,780			54
3,214,744	606,801	527	591,500	325,513	2,548	2,091	3,925,471	23,069	83,154	670,099	227,611	65,012			55
4,126,818	2,706,388	41,218	206,499	100,616	2,836	2,020	2,534,308	1,518,034	21,197	295,986	93,420	67,243			56
2,951,120	106,843	41	684,306	363,506	1,575	1,281	2,041,878	36,183	100,828	548,934	325,789	131,989	1,200	1,100	57
3,204,124	200,802	5,451	624,942	270,917	2,163	731	3,422,945	17,690	34,385	548,111	513,078	219,601	2,170	1,525	58
6,885,855	2,738,214	12,041	903,533	551,668	551		3,078,702	251,669	133,115	803,416	695,017	421,081			59
7,821,870	377,200	465	1,571,902	681,205	10,914	5,292	9,988,171	283,052	109,775	1,836,690	1,262,512	432,154	2,106	1,780	60
															61
							2,380,373	72,964	30,155	442,603	295,052	101,971	8,393	5,808	62
															63
1,355,198	183,366		249,621	119,956	327	63	2,568,211	115,936	102,937	390,304	412,786	244,868	1,130		64
1,545,606	165,186	155	322,744	164,596			1,234,927	51,636	44,794	262,322	261,917	135,144			65
6,494,300	314,389	3,000	1,438,801	676,660	33,272	30,714	8,039,937	338,421	127,238	986,606	1,377,339	665,911	466		66
3,365,623	421,202	302	627,725	284,346	4,535	472	2,408,218	9,324	76,213	375,954	416,132	161,882	7,775	7,775	67
3,374,522	2,575,934	8,993	160,416	63,468	536	528	3,237,310	2,676,924	13,280		136,972	80,069	1,396	1,341	68
1,545,268	114,046		276,056	119,552	3,053	2,647	1,168,465	355,700	6,016	190,508	151,133	78,817			69
4,417,896	1,526,687	1,830	638,477	380,960	2,392	2,091	3,062,169	215,264	54,562	705,822	415,143	169,867			70
5,633,382	1,329,219		879,589	478,684	5,387	4,811	3,174,852	213,976	134,528	425,657	783,919	415,500	50		71
7,331,285	3,882,649	24,271	613,555	381,769			5,607,021	2,022,033	215,750	1,047,423	272,736	133,698	7,652	7,300	72
2,647,503	235,736	6,995	560,207	343,137			1,358,214	34,822	77,284	354,727	221,905	59,595			73
1,411,935	26,422	21	285,610	125,921	3,234	154	2,540,894	15,436	27,564	225,663	398,953	154,697			74
1,042,848	505,025	1,959	101,867	50,278	2,193	414	2,569,155	968,524	8,398	13,101	425,264	205,851	2,319	30	75
4,431,571	1,425,499	119,044	475,675	278,821			2,404,008	617,949	142,290	322,462	187,108	115,126	2,084	1,214	76
2,403,128	333,940	16,116	490,038	332,010	603	388	1,792,767	76,633	116,521	224,085	224,184	110,051			77

TABLE XXXII—Dairy Products in Minnesota

	1850	1860		1870			1880			1890		
Counties	Butter, pounds of, produced	Butter, pounds of, produced	Cheese, pounds of, produced	Milk sold, gallons	Butter, pounds of, produced	Cheese, pounds of, produced	Milk sold or sent to butter and cheese factories, gallons	Butter made on farms, pounds	Cheese made on farms, pounds	Milk produced on farms, gallons	Butter made on farms, pounds	Cheese made on farms, pounds
78 Sibley		74,150	1,000		310,217	1,200	8,424	272,608	1,315	2,369,694	373,911	6,296
79 Stearns		87,565		108	323,085	10,435	43,147	591,202	40,440	3,920,526	851,080	10,273
80 Steele		65,075	8,206	27,840	208,249	2,950	57,851	443,094	8,139	3,567,450	587,285	5,226
81 Stevens					8,280		140	40,887		1,184,562	240,695	2,035
82 Swift							4,325	180,656	2,653	1,730,166	457,221	3,990
83 Todd		6,100		27	25,683	160	550	131,539	7,390	1,824,589	439,063	9,009
84 Toombs												
85 Traverse								21,425		682,461	140,892	275
86 Wabasha		135,245	516	15,444	376,729	4,830	13,105	575,332	5,057	4,210,385	688,282	4,301
87 Wadena								23,110		544,444	112,468	1,737
88 Wahnahta												
89 Waseca		41,325	8,345		224,227	4,184	2,281	376,439	6,330	2,672,235	623,148	5,865
90 Washington	1,100	77,817	2,830		118,392	3,501	153,296	302,645	11,587	2,457,251	674,467	3,715
91 Watonwan				120	43,095	280	600	248,994	1,600	2,262,572	554,423	16,535
92 Wilkin					9,825		875	4,160	400	745,659	158,610	2,205
93 Winona		117,845	9,326	22,585	478,425	6,760	36,643	539,784	9,110	4,836,155	800,327	14,407
94 Wright		71,285	4,951		115,675	1,490	626	362,623	6,017	3,616,377	578,423	5,314
95 Yellow Medicine							45	187,461	1,642	1,946,833	421,213	2,993
96 Indian Reservations												
Totals for the State	1,100	2,957,673	199,314	208,130	9,522,010	233,977	1,504,407	19,161,385	523,138	182,968,973	34,766,409	676,642

by Counties, 1850-1910—*Continued*

1900							1910									
Milk produced on farms, gallons	Milk, gallons sold	Cream, gallons sold	Butter made on farms, pounds	Butter, pounds sold	Cheese made on farms, pounds	Cheese, pounds sold	Milk produced on farms, gallons	Milk, gallons sold	Cream, gallons sold	Butter fat, pounds sold	Butter produced on farms, pounds	Butter sold, pounds	Cheese produced on farms, pounds	Cheese sold, pounds	Counties
5,584,142	2,852,110	523	561,075	337,157	3,131	3,015	3,061,976	636,507	49,461	464,977	581,605	416,783	80		78
7,671,896	2,363,433	2,252	1,043,154	654,137	2,040	1,182	8,337,777	1,373,024	439,378	1,022,376	622,491	325,730	2,704	2,350	79
7,042,534	5,667,520	2,379	186,835	46,206			4,811,248	3,018,714	36,156	561,620	578,544	511,899			80
1,822,966	238,154	20	355,337	172,033	5,681	5,525	1,653,251	18,525	65,060	222,845	228,050	69,132			81
3,169,077	735,057	4,352	517,625	255,139	9,262	7,216	2,603,047	74,423	41,690	248,237	441,958	163,382	1,826	1,750	82
2,993,145	62,798		659,222	305,706	2,982	2,204	3,820,758	227,878	115,500	1,093,905	454,062	224,344	2,000	2,000	83
															84
1,191,015	15,285	82	257,559	103,113	191		1,144,976	16,358	39,696	118,623	230,251	82,109	1,228	1,000	85
3,860,004	649,112	4,989	778,036	484,699	1,775	1,313	2,410,499	57,295	114,790	498,870	378,349	150,059	75	35	86
1,161,222	36,236		266,863	126,855	134	81	2,000,736	205,463	50,361	380,633	167,445	51,856	1,450	1,400	87
															88
5,217,761	3,024,748	161	469,094	371,076			2,406,694	1,322,037	36,908	433,495	308,608	212,222	15		89
4,135,003	1,493,426	7,575	564,427	378,558			3,972,611	2,137,263	43,669	117,982	387,037	256,908	106		90
3,463,764	2,053,310	1,868	303,817	197,606	61		3,266,602	563,892	102,280	404,551	198,849	149,002			91
1,430,416	77,148		282,093	103,105	4,568	3,782	1,531,362	30,810	19,027	117,103	264,281	115,780	455	190	92
4,733,106	1,124,009	13,160	823,732	490,385	2,958	2,828	3,666,845	630,430	40,043	914,422	762,484	546,018	1,350	1,250	93
6,669,582	1,304,631	13,591	1,176,909	743,802	330	41	8,116,137	2,179,855	208,041	1,192,154	498,430	331,202	1,704	1,628	94
3,046,575	203,783	430	655,473	279,031	252	123	2,307,324	32,212	37,705	342,402	546,999	171,297			95
81,085	2,688		15,809	5,122											96
304,017,106	103,768,172	1,205,845	41,188,846	22,376,084	290,623	227,878	273,319,603	53,181,785	5,756,165	40,414,151	34,708,669	18,016,409	106,075	79,045	

TABLE XXXIII—POULTRY PRODUCTS ON FARMS IN MINNESOTA BY COUNTIES, 1850-1910

COUNTIES	1850		1860		1870		1880		1890		1900		1910		
							Eggs, dozens		Eggs, dozens		Eggs, dozens	Value of poultry raised	Eggs, dozens	Poultry raised	Total value
Aitkin							935		9,206		94,770	$ 5,386	139,083	30,772	$ 36,624
Anoka							79,002		115,356		340,530	25,639	367,495	80,940	107,966
Becker							44,027		113,097		287,420	19,342	432,282	84,397	104,692
Beltrami									885		57,440	4,679	155,238	36,242	49,868
Benton							19,683		94,428		228,730	16,915	323,047	80,119	93,041
Big Stone							14,466		116,418		321,720	15,967	278,477	70,643	81,739
Blue Earth							301,965		554,551		1,231,460	80,183	1,150,876	279,494	322,821
Breckenridge															
Brown							145,746		368,938		677,060	39,122	884,388	196,390	222,104
Buchanan															
Carlton							7,494		8,560		63,420	3,872	130,831	32,385	40,476
Carver							238,700		518,142		749,860	49,588	949,735	182,630	249,156
Cass									5,888		63,810	4,449	126,093	25,385	33,281
Chippewa							44,944		178,156		488,090	27,335	581,455	117,296	137,627
Chisago							97,203		194,657		461,710	16,708	532,643	65,105	124,758
Clay							22,449		235,457		484,000	28,325	483,361	112,465	130,189
Clearwater													110,056	17,030	24,722
Cook							150		457		5,460	397	14,424	2,705	5,378
Cottonwood							67,807		197,472		539,200	38,820	624,313	152,143	160,474
Crow Wing							4,377		44,007		176,470	16,128	209,605	47,536	59,032
Dakota							298,812		394,133		585,810	65,453	814,632	210,371	263,420
Dodge							150,140		326,402		630,720	33,605	645,000	124,807	177,538
Douglas							59,524		173,886		478,330	21,066	666,087	116,404	158,123
Faribault							200,122		375,323		868,870	93,919	833,473	229,582	251,290
Fillmore							422,998		886,408		1,524,000	77,825	1,260,890	232,432	318,721
Freeborn							232,574		523,500		989,530	96,520	1,116,040	259,530	327,201
Goodhue							358,236		887,524		1,167,970	74,855	1,276,267	237,802	320,005
Grant							12,849		123,593		429,870	22,460	367,806	71,940	92,993
Hennepin							241,926		522,716		875,190	84,344	1,166,318	264,946	379,112
Houston							186,831		413,724		677,950	45,671	581,854	140,683	160,662
Hubbard									16,344		55,450	4,778	143,024	33,251	41,512
Isanti							53,282		137,783		351,780	14,814	445,762	55,303	93,158
Itasca									687		18,780	2,019	90,046	23,564	34,874
Jackson							51,888		207,993		598,990	56,899	849,158	193,580	222,232
Kanabec							1,090		17,047		91,140	4,050	125,378	24,159	33,041
Kandiyohi							60,309		243,446		531,660	26,499	813,723	143,026	198,822
Kittson									128,626		217,860	12,550	267,008	49,089	64,005
Koochiching													25,013	5,654	9,024
Lac qui Parle							40,536		221,942		715,490	37,877	770,412	174,509	198,642
Lake							900		750		4,470	532	23,577	6,835	9,686
Le Sueur							245,671		292,517		648,780	68,372	744,502	211,497	232,601
Lincoln							16,225		110,607		304,350	24,154	481,256	101,751	112,329
Lyon							48,375		176,676		580,820	41,142	546,349	161,765	167,033
McLeod							148,969		471,650		770,860	66,716	1,086,181	254,843	280,265
Mahnomen													30,005	8,542	7,859
Mankahta															
Manomin															
Marshall							237		130,497		411,800	22,608	461,962	80,760	102,306
Martin							74,432		266,938		742,290	63,880	953,093	264,817	284,927
Meeker							112,508		243,652		792,470	45,493	914,361	148,809	226,699
Mille Lacs									23,658		142,510	9,215	258,575	43,627	68,179
Monongalia															
Morrison							54,451		158,292		438,870	25,430	569,399	118,875	137,309
Mower							312,833		389,396		884,870	67,151	807,229	191,392	239,101
Murray							38,191		137,620		635,580	43,782	685,514	179,348	187,294
Nicollet							181,708		397,615		638,440	32,349	680,157	135,466	167,807
Nobles							81,921		250,902		808,130	61,449	726,672	183,936	208,042
Norman									195,341		330,630	17,327	572,015	80,922	125,049
Olmsted							316,941		691,881		1,190,370	59,212	1,051,195	199,702	265,647
Otter Tail							117,152		444,449		1,195,950	63,027	1,459,682	281,007	353,700
Pembina															
Pennington													241,190	38,694	51,789
Pierce															
Pine							2,336		25,026		184,190	11,047	355,460	61,441	89,002
Pipestone							13,145		116,347		346,490	20,781	388,273	103,482	115,814
Polk							28,578		459,870		774,600	57,463	999,211	205,344	266,315
Pope							61,873		187,656		486,550	26,279	500,041	103,183	134,375
Ramsey							66,504		90,576		213,250	15,771	255,855	56,199	92,162
Red Lake											224,740	14,200	118,937	22,735	29,766
Redwood							58,226		200,895		711,970	55,567	1,069,283	266,000	292,395
Renville							101,473		380,098		881,020	59,296	1,219,347	267,859	317,986
Rice							236,437		599,743		811,230	69,482	859,530	211,235	258,297
Rock							69,627		209,695		623,570	26,629	433,131	108,029	117,890
Roseau											136,030	7,715	248,079	36,677	53,010
Saint Louis							11,154		47,791		86,460	7,087	275,423	44,759	87,073
Scott							202,774		427,703		686,980	50,788	748,522	127,745	182,771
Sherburne							54,584		160,412		344,090	24,203	318,078	71,568	85,104

TABLE XXXIII—Poultry Products on Farms in Minnesota by Counties, 1850-1910—*Continued*

Counties	1850		1860		1870		1880		1890		1900		1910		
							Eggs, dozens		Eggs, dozens		Eggs, dozens	Value of poultry raised	Eggs, dozens	Poultry raised	Total value
Sibley							142,756		436,505		752,660	$ 55,099	956,914	213,031	$ 247,123
Stearns							233,911		535,437		1,302,880	67,990	1,489,402	243,094	357,153
Steele							145,638		391,620		734,680	55,015	774,578	190,169	220,365
Stevens							19,778		87,139		311,690	25,653	347,172	84,218	97,985
Swift							65,671		197,430		441,590	25,553	485,934	112,296	126,132
Todd							35,921		150,379		560,360	30,163	721,817	132,161	171,157
Toombs															
Traverse							6,852		114,975		226,770	15,911	322,630	83,870	87,222
Wabasha							265,672		483,119		707,710	37,566	680,223	127,318	171,577
Wadena							10,560		60,934		197,370	10,017	182,814	45,733	48,800
Wahnahta															
Waseca							153,864		414,028		569,390	40,768	568,077	176,341	173,258
Washington							206,527		323,100		606,540	37,866	592,829	119,953	173,131
Watonwan							56,159		204,567		325,540	32,332	456,048	123,699	131,540
Wilkin							2,057		79,808		272,660	16,773	344,861	76,093	92,727
Winona							324,291		546,363		524,410	38,868	785,652	160,286	202,192
Wright							410,207		465,553		992,510	78,840	1,154,538	270,094	310,645
Yellow Medicine							37,007		218,536		548,270	32,416	716,509	191,902	207,833
Indian Reservations											20,200	681			
Totals for the State							8,234,161		20,354,498		43,208,130	$2,927,717	50,413,375	10,933,411	$13,496,74

TABLE XXXIV—Production of Honey and Wax in Minnesota by Counties, 1850-1910

Counties	1850		1860		1870		1880		1890		1900		1910	
	Pounds		Pounds		Pounds		Pounds		Pounds		Pounds		Pounds	Value
Aitkin							200				790		2,782	$ 400
Anoka			105				1,434		2,298		5,290		2,534	304
Becker									10		140		1,479	260
Beltrami											430		3,775	609
Benton			56				2,793		8,949		28,570		9,208	1,155
Big Stone									200				1,153	175
Blue Earth			400		5,556		10,190		43,044		33,590		33,592	4,364
Breckenridge														
Brown					1,242		1,371		4,273		11,180		14,958	1,633
Buchanan														
Carlton									10		270		982	151
Carver			3,349		463		8,497		12,926		11,050		19,248	2,397
Cass									20		5,500		4,443	618
Chippewa							8		330		1,640		3,004	363
Chisago			500		2,450		6,886		16,560		21,040		6,672	777
Clay									100				2,055	270
Clearwater													2,957	550
Cook													100	25
Cottonwood							407		535		5,610		2,747	403
Crow Wing									320		4,450		13,249	1,784
Dakota			75		3,906		4,114		30,894		10,490		15,502	1,766
Dodge			1,653		4,139		3,741		28,216		15,410		21,852	2,864
Douglas							2,268		8,921		16,340		8,611	1,030
Faribault					1,525		6,104		27,875		19,330		21,789	2,782
Fillmore			4,041		5,017		18,104		97,256		33,770		80,656	9,032
Freeborn			325		390		5,117		15,812		12,430		25,557	3,082
Goodhue			750		6,551		5,691		42,274		29,080		33,123	3,769
Grant									766		2,840		635	87
Hennepin			4,840		3,573		13,788		54,260		43,710		38,355	5,290
Houston			2,552		1,457		4,878		70,186		22,010		23,401	2,419
Hubbard													550	75
Isanti					490		3,414		6,235		13,296		1,638	188
Itasca														
Jackson							302		1,918		5,280		5,318	739
Kanabec											9,160		8,395	1,058
Kandiyohi							5,835		4,914		2,620		3,226	476
Kittson											30		840	172
Koochiching													163	24
Lac qui Parle									810		4,133		2,372	347
Lake													150	37
Le Sueur			1,018		1,045		6,679		28,139		35,070		26,565	3,240
Lincoln									10		2,390		5,839	851
Lyon							20		4,384		3,890		10,253	1,573
McLeod			742		2,369		2,986		17,602		20,980		12,180	1,572
Mahnomen														
Mankato														
Manomin														
Marshall									885		60		888	163
Martin					200		5,437		17,757		16,360		11,768	1,694
Meeker					945		5,874		23,771		17,500		7,276	1,053
Mille Lacs							1,500		12,574		39,510		11,258	1,164
Monongalia														
Morrison							4,111		1,849		43,240		18,554	2,297
Mower			200		425		8,320		49,860		18,120		43,974	5,254
Murray							54		1,078		1,150		3,274	487
Nicollet			2,281		2,314		6,379		19,993		12,360		11,022	1,291
Nobles									450		820		8,121	1,118
Norman											1,460		1,513	184
Olmsted			1,512		7,521		8,705		72,629		23,660		34,823	4,162
Otter Tail							110		2,700		15,920		26,406	3,307
Pembina														
Pennington													4,970	793
Pierce														
Pine					56		145		3,250		19,090		12,758	1,554
Pipestone							575		105		20		1,876	296
Polk									573		6,640		10,323	1,600
Pope							42		1,331		3,850		1,778	230
Ramsey			250		420		2,174		8,300		15,310		1,642	232
Red Lake											8,820		2,881	424
Redwood									547		7,060		10,546	1,467
Renville							527		4,312		5,670		10,610	1,434
Rice			1,408		7,753		9,274		61,310		18,040		11,027	1,402
Rock									70		790		7,620	1,136
Roseau														
Saint Louis							695		6,550		3,760		1,170	187
Scott			2,305		3,089		5,574		15,463		23,160		15,138	1,907
Sherburne					655		4,452		5,209		5,324		1,164	162
Sibley			1,255				4,371		12,035		23,600		14,940	1,817
Stearns					2,396		9,799		21,007		35,300		13,025	1,974

TABLE XXXIV—Production of Honey and Wax in Minnesota by Counties, 1850-1910—*Continued*

Counties	1850	1860	1870	1880	1890	1900	1910	
	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Value
Steele			2,320	3,028	40,717	9,950	11,034	$ 1,416
Stevens					540	3,580	1,037	163
Swift					20	640	3,237	450
Todd				4,983	1,080	38,990	21,859	2,635
Toombs								
Traverse						300	455	92
Wabasha	75	67	5,203	15,370	106,405	30,420	60,262	7,135
Wadena					162	13,730	6,565	876
Wahnahta								
Waseca		60	1,506	2,824	14,801	8,500	21,229	2,435
Washington	5	2,440	5,704	2,232	15,948	12,050	19,598	2,414
Watonwan			459	1,081	1,011	5,890	8,434	1,090
Wilkin						80	295	39
Winona		2,305	13,460	7,134	86,217	49,259	41,131	4,872
Wright		640	1,970	11,009	28,803	31,030	19,425	2,561
Yellow Medicine					3,081	4,250	6,328	939
Indian Reservations								
Totals for the State	80	*35,129	96,569	240,606	1,172,440	1,007,072	993,142	$124,617

* Total as given in Census (1860, p. 83):

Pounds of wax	1,544
Pounds of honey	34,285
	35,829

Correct sum of county items:

Pounds of wax	1,544
Pounds of honey	33,585
	35,129

TABLE XXXV—VALUE OF FARM PRODUCTS IN

	Counties	1850	1860	1870			
				Total value of all farm products	Per square mile	Per acre, improved	Per capita of country population
1	Aitkin			$ 400		$ 66.67	$ 2.25
2	Anoka			123,215		14.61	50.46
3	Becker			3,243		12.14	10.53
4	Beltrami						
5	Benton			37,765		14.79	33.55
6	Big Stone			299		23.00	12.46
7	Blue Earth			1,415,075		13.83	112.34
8	Breckenridge						
9	Brown			333,061		9.85	65.49
10	Buchanan						
11	Carlton						
12	Carver			867,331		25.47	80.76
13	Cass			1,770		23.92	4.66
14	Chippewa			57,088		5.99	38.91
15	Chisago			211,638		26.44	48.56
16	Clay			1,106		50.27	12.02
17	Clearwater						
18	Cook						
19	Cottonwood			14,900		19.05	27.90
20	Crow Wing			6,362		16.74	31.81
21	Dakota			2,509,758		15.44	213.58
22	Dodge			1,017,813		13.65	143.63
23	Douglas			190,291		13.57	44.89
24	Faribault			732,645		10.77	79.06
25	Fillmore			2,664,398		14.39	128.55
26	Freeborn			856,233		12.40	90.98
27	Goodhue			2,269,040		10.46	123.60
28	Grant			9,264		10.72	27.25
29	Hennepin			1,400,479		21.64	103.84
30	Houston			964,512		14.22	74.85
31	Hubbard						
32	Isanti			95,477		12.54	46.92
33	Itasca						
34	Jackson			90,650		16.83	49.67
35	Kanabec			700		14.00	
36	Kandiyohi			45,720		7.38	25.98
37	Kittson						
38	Koochiching						
39	Lac qui Parle			2,243		8.37	15.47
40	Lake			3,500		31.53	25.93
41	Le Sueur			907,789		24.37	85.73
42	Lincoln						
43	Lyon						
44	McLeod			295,219		13.77	56.74
45	Mahnomen						
46	Mankahta						
47	Manomin						
48	Marshall						
49	Martin			258,080		13.27	66.74
50	Meeker			411,917		19.13	76.01
51	Mille Lacs			40,514		22.71	36.53
52	Monongalia			160,828		9.26	50.88
53	Morrison			62,383		17.84	37.11
54	Mower			949,145		14.49	112.89
55	Murray			6,400		15.50	30.62
56	Nicollet			645,855		12.71	103.54
57	Nobles						
58	Norman						
59	Olmsted			2,877,800		14.25	184.58
60	Otter Tail			36,539		10.06	18.57
61	Pembina						
62	Pennington						
63	Pierce						
64	Pine			1,900		42.22	2.93
65	Pipestone						
66	Polk						
67	Pope			161,386		12.76	60.00
68	Ramsey			514,884		50.36	168.54
69	Red Lake						
70	Redwood			17,417		16.22	9.52
71	Renville			96,043		9.87	29.16
72	Rice			1,291,392		13.53	124.98
73	Rock			6,650		14.36	48.54
74	Roseau						
75	Saint Louis						
76	Scott			673,973		14.26	73.29
77	Sherburne			157,573		20.00	76.86

MINNESOTA BY COUNTIES, 1850-1910

1880				1890				*1900				1910				
Total value of all farm products	Per square mile	Per acre, improved	Per capita of country population	Total value of all farm products	Per square mile	Per acre, improved	Per capita of country population	Total value of all farm products	Per square mile	Per acre, improved	Per capita of country population	Total value of all farm products	Per square mile	Per acre, improved	Per capita of country population	Counties
$ 2,725	$ 1.49	$ 12.62	$ 7.45	$ 71,660	$ 39.16	$ 26.65	$ 41.54	$ 207,477	$ 113.38	$ 10.02	$ 41.30	$ 648,106	$ 354.16	$ 18.65	$ 77.28	1
274,652	598.37	7.30	62.39	409,170	891.44	9.90	72.65	729,466	1,589.25	8.38	98.30	1,684,653	3,670.27	16.59	218.50	2
315,050	233.54	7.85	70.94	410,670	304.43	5.76	55.62	1,062,238	787.43	7.35	102.18	2,204,420	1,634.11	12.32	170.87	3
				1,560	.32	12.09	5.00	224,088	46.29	9.49	27.16	809,075	211.69	24.33	83.66	4
131,356	324.34	7.14	54.41	270,350	667.53	5.49	62.78	568,640	1,404.05	6.28	80.68	1,780,359	4,395.95	16.36	234.69	5
150,910	307.35	6.83	41.37	854,450	1,740.22	8.32	192.18	1,423,116	2,898.40	5.84	250.33	2,890,932	5,887.85	11.91	559.72	6
1,314,196	1,724.67	4.88	79.62	1,993,120	2,615.64	5.68	106.44	2,805,152	3,681.30	7.70	156.77	5,758,891	7,557.60	16.05	381.99	7
																8
542,706	886.77	3.87	64.74	1,478,260	2,415.46	6.14	150.12	1,962,215	3,206.23	6.26	181.23	4,107,704	6,711.93	13.35	410.36	9
																10
27,337	31.53	12.71	53.39	32,670	37.68	14.00	21.16	154,038	177.67	11.36	27.78	687,895	793.42	25.00	83.29	11
895,186	2,380.81	9.61	78.34	1,085,200	2,886.17	10.94	90.51	1,546,166	4,112.14	12.75	127.16	3,719,142	9,891.34	28.95	320.42	12
400		.51	.82	26,950		9.49	33.35	164,465	78.17	7.99	24.57	582,048	276.64	14.46	75.59	13
436,462	738.51	6.81	96.01	838,970	1,419.58	6.47	117.87	1,625,902	2,751.10	5.27	184.47	3,524,703	5,963.96	11.75	417.92	14
325,892	763.21	10.45	50.96	477,980	1,119.39	10.99	62.53	1,081,154	2,531.98	12.68	114.77	2,384,832	5,585.09	22.78	249.80	15
426,478	408.90	8.61	72.44	1,212,570	1,162.58	7.52	155.16	2,544,500	2,439.60	5.80	215.95	4,534,042	4,347.12	10.40	391.44	16
												613,630	602.19	15.13	105.45	17
675	.45	33.75	10.38	520	.35	14.86	5.31	8,747	5.84	26.75	10.80	70,690	47.19	45.08	72.06	18
256,649	401.01	3.69	50.42	708,712	1,107.36	5.70	113.32	1,745,332	2,727.08	5.11	197.10	3,502,555	5,472.74	10.34	394.43	19
20,386		14.86	44.90	149,750		11.34	47.55	367,463	347.65	10.16	54.63	812,029	768.24	15.62	110.35	20
1,688,545	2,818.94	7.31	135.02	1,322,100	2,207.18	5.58	117.97	2,163,589	3,612.00	7.94	183.70	4,527,530	7,558.48	17.43	402.48	21
1,129,086	2,566.16	5.82	128.04	858,270	1,950.61	4.47	97.76	1,519,532	3,453.48	6.92	163.51	3,166,948	7,197.61	13.98	379.28	22
582,831	899.43	8.15	77.47	1,084,540	1,673.67	9.15	95.65	1,507,509	2,326.40	7.85	111.62	3,349,021	5,168.24	15.24	275.98	23
1,086,955	1,511.76	4.82	111.27	1,788,955	2,488.12	5.65	154.71	2,606,911	3,625.75	6.62	199.38	5,151,868	7,165.32	13.41	440.93	24
2,330,539	2,684.95	6.45	103.60	1,808,480	2,083.50	5.06	88.13	3,062,713	3,528.47	7.87	155.14	6,689,440	7,706.73	17.09	407.94	25
1,535,804	2,089.53	6.00	111.32	1,190,720	1,620.03	4.34	83.31	2,699,917	3,673.36	7.87	172.66	5,270,283	7,170.45	16.03	361.28	26
2,921,177	3,808.57	8.39	136.63	1,743,855	2,273.60	4.80	90.11	3,027,194	3,946.80	8.08	159.50	5,922,553	7,721.71	16.45	340.32	27
245,064	443.15	7.52	86.90	978,330	1,769.13	8.37	161.57	1,303,708	2,357.52	5.88	186.94	2,728,751	4,934.45	10.60	427.77	28
1,590,168	2,814.46	11.14	81.53	1,672,615	2,960.38	11.79	105.71	3,012,397	5,331.68	15.25	157.13	6,448,744	11,413.71	33.99	344.93	29
1,133,737	1,989.01	7.79	84.86	822,960	1,443.79	5.29	69.94	1,630,451	2,860.44	9.60	133.61	3,456,792	6,064.55	19.86	330.10	30
				106,310		6.36	75.29	188,155	196.40	6.38	37.36	660,667	689.63	11.86	88.56	31
224,619	508.19	8.62	45.59	277,925	628.79	7.24	37.82	820,890	1,857.22	9.57	75.05	1,869,092	4,228.71	17.05	170.03	32
				5,340	.91	12.54	7.19	70,222	11.96	16.43	25.09	412,918	151.25	30.28	71.09	33
185,356	264.04	3.07	43.06	647,200	921.94	5.32	87.07	1,810,921	2,579.66	5.11	166.69	4,229,795	6,025.35	11.92	401.35	34
10,217	19.13	12.21	20.23	23,020	43.11	6.83	14.58	182,471	341.71	13.19	47.66	730,561	1,368.09	19.55	142.97	35
886,146	1,106.30	5.61	100.07	1,062,350	1,326.28	4.98	92.12	1,984,622	2,477.68	5.82	144.08	4,642,016	5,795.28	12.56	360.40	36
900	.32	.42	.99	554,139	199.26	4.72	108.98	1,415,082	1,273.70	6.88	212.16	2,772,234	2,495.26	9.65	363.62	37
												253,262	80.63	45.81	64.20	38
350,740	443.97	6.18	71.71	1,423,060	1,801.34	6.77	155.14	2,434,690	3,081.89	6.22	222.51	5,135,259	6,500.33	12.74	474.65	39
2,175	1.04	7.97	20.52	2,830	1.35	10.80	2.18	6,539	3.12	26.91	4.75	78,081	37.20	32.79	30.86	40
910,304	1,953.44	8.25	69.80	1,236,410	2,653.24	9.10	91.13	1,707,797	3,664.80	11.47	129.09	3,506,794	7,525.31	21.50	303.96	41
135,210	252.73	5.62	45.91	350,580	655.29	3.43	69.55	1,344,889	2,513.81	5.66	177.87	2,634,904	4,925.05	10.57	354.68	42
457,676	646.44	6.54	94.15	717,840	1,013.90	5.08	109.21	2,124,409	3,000.58	6.36	237.68	3,845,160	5,431.02	11.17	424.22	43
787,577	1,587.86	5.65	73.72	1,375,250	2,772.68	6.90	107.22	1,949,713	3,930.87	8.71	147.63	4,273,271	8,615.47	17.81	348.04	44
												188,975	330.38	7.83	85.01	45
																46
																47
3,775	2.11	.74	3.81	797,930	446.27	5.10	100.86	1,887,997	1,055.93	5.54	144.34	3,761.550	2,103.78	9.88	295.21	48
346,800	482.34	6.26	75.77	872,590	1,213.62	5.88	112.71	1,968,386	2,737.67	5.13	165.61	5,055,179	7,030.85	13.42	441.38	49
832,608	1,340.75	6.49	84.12	1,470,900	2,368.60	9.56	119.30	1,955,417	3,148.82	7.57	140.14	4,806,993	7,740.73	17.77	373.33	50
37,510	64.34	5.60	41.04	90,820	155.78	8.31	67.88	304,518	522.33	9.70	57.67	1,177,145	2,019.12	24.30	156.33	51
																52
292,008	255.48	8.15	54.41	610,520	534.14	8.91	61.89	1,102,016	964.14	7.43	71.34	2,845,783	2,489.75	15.45	184.40	53
1,808,526	2,543.64	6.56	142.03	1,700,499	2,391.70	6.04	138.61	2,707,766	3,808.39	6.86	199.94	4,918,897	6,918.28	12.56	407.23	54
142,695	202.69	4.73	39.59	670,150	951.92	5.86	115.66	1,978,560	2,810.45	5.84	209.46	3,511,534	4,987.97	9.87	401.73	55
907,369	2,048.24	5.08	101.99	1,369,340	3,091.06	6.78	144.93	1,643,601	3,710.16	7.85	182.04	3,191,754	7,204.86	16.83	402.54	56
184,004	254.85	2.72	48.43	773,090	1,070.76	4.86	131.81	2,208,819	3,059.31	7.41	220.44	4,502,804	6,236.57	11.60	481.12	57
				917,390	640.64	5.02	91.78	1,402,436	979.35	4.43	107.93	3,259,145	3,789.70	10.35	326.31	58
2,360,672	3,544.55	7.32	156.39	1,708,960	2,566.01	5.49	128.67	2,559,762	3,843.49	7.82	180.93	5,144,936	7,725.13	16.27	413.21	59
1,137,832	558.03	8.63	66.77	2,370,220	1,162.44	7.62	83.38	3,541,557	1,736.91	7.01	100.78	7,767,686	3,809.56	13.11	239.21	60
																61
												1,410,149	2,323.14	10.31	271.50	62
																63
17,708	12.53	12.65	12.97	41,790	29.58	8.74	17.54	318,576	225.46	10.40	39.45	1,403,161	993.04	21.66	126.63	64
73,286	156.26	3.35	39.19	272,290	580.58	3.10	81.28	1,258,276	2,682.89	6.04	260.67	2,576,418	5,493.43	10.29	503.60	65
615,304	138.27	5.02	63.03	2,223,310	736.68	5.25	93.33	3,662,269	1,850.57	5.62	145.63	7,216,630	3,646.60	11.21	326.15	66
516,180	744.85	6.47	87.88	1,041,190	1,502.44	6.54	115.97	1,567,910	2,262.50	5.47	154.73	3,338,377	4,817.28	11.66	369.45	67
342,556	2,127.68	13.78	86.03	740,080	4,596.77	32.11	193.23	1,098,889	6,825.40	28.20	231.78	1,889,436	11,735.63	45.87	334.59	68
								717,978	691.03	4.91	93.84	836,389	1,936.09	10.84	179.18	69
302,304	343.14	4.63	73.88	957,860	1,087.24	6.46	127.41	2,356,769	2,675.11	5.64	182.13	5,156,030	5,852.47	11.75	404.08	70
826,779	845.38	8.67	84.67	1,853,440	1,895.13	8.06	130.40	3,235,004	3,307.78	6.47	188.50	6,859,646	7,013.95	13.36	428.89	71
1,328,696	2,684.23	7.06	93.70	1,190,940	2,405.94	5.41	87.98	2,062,018	4,165.69	9.05	155.27	4,565,576	9,223.39	19.90	386.49	72
253,943	516.14	3.34	84.93	726,280	1,476.18	5.09	141.88	1,763,121	3,583.58	6.59	262.68	3,717,189	7,555.26	13.73	572.32	73
								263,183	157.59	3.54	40.31	1,202,570	720.10	7.64	135.95	74
45,225	6.95	13.29	55.09	87,820	13.50	18.04	16.05	283,998	43.67	24.90	22.83	1,451,678	223.23	35.31	42.28	75
953,284	2,604.60	8.78	98.48	738,280	2,017.16	5.91	77.95	1,390,878	3,800.21	11.28	145.79	2,681,231	7,325.77	20.06	335.87	76
235,958	526.69	6.02	73.28	366,390	817.83	5.93	77.40	651,902	1,455.14	6.62	115.56	1,534,940	3,426.21	13.84	274.54	77

* The Census Report for 1900 gives only the value of farm products not fed to live stock, and not the total value as in other reports.

TABLE XXXV—Value of Farm Products in

	Counties	1850	1860	1870			
				Total value of all farm products	Per square mile	Per acre, improved	Per capita of country population
78	Sibley						
79	Stearns			$ 536,376		$ 17.15	$ 89.11
80	Steele			789,885		14.31	65.58
81	Stevens			546,701		11.45	88.16
82	Swift			15,811		21.22	90.87
83	Todd						
84	Toombs			71,672		19.05	35.20
85	Traverse						
86	Wabasha			1,009		50.00	76.92
87	Wadena			2,139,397		15.67	189.68
88	Wahnahta			650		108.33	108.33
89	Waseca						
90	Washington			648,297		13.16	102.00
91	Watonwan			790,181		16.30	131.98
92	Wilkin			170,188		10.18	74.48
93	Winona			43,455		47.96	147.31
94	Wright			1,883,873		13.79	135.68
95	Yellow Medicine			309,251		13.09	32.70
96	Indian Reservations						
	Totals for the State			$33,446,400		$14.40	$102.06

TABLE XXXVI—Average Size, Value, and Tenure of

	Counties	1850				1860				1870			
		Average size, acres	Value of land and buildings	Average value per acre of land and buildings	% worked by owners	Average size, acres	Value of land and buildings	Average value per acre of land and buildings	% worked by owners	Average size, acres	Value of land and buildings	Average value per acre of land and buildings	% worked by owners
1	Aitkin												
2	Anoka					140.8	$ 182,885	$ 6.46		153.5	$ 500	$ 1.63	
3	Becker									137.8	421,379	9.05	
4	Beltrami									144.3	6,300	6.23	
5	Benton		$34,250			190.7	68,850	6.81					
6	Big Stone									181.3	73,450	7.50	
7	Blue Earth					148.8	309,271	4.37		4.3	65	5.00	
8	Breckenridge									142.1	5,133,375	18.39	
9	Brown					148.9	215,210	5.39					
10	Buchanan									143.1	1,493,537	10.81	
11	Carlton					160.0	3,800	5.93					
12	Carver					134.1	454,310	4.17					
13	Cass									107.1	2,637,526	15.70	
14	Chippewa									112.0	850	3.79	
15	Chisago					127.9	124,019	5.60		45.5	45,365	3.47	
16	Clay									121.7	477,720	11.21	
17	Clearwater									212.5	1,598	1.88	
18	Cook												
19	Cottonwood					160.0	2,600	8.13					
20	Crow Wing									148.3	43,600	6.84	
21	Dakota					151.9	1,228,387	8.56		134.8	5,950	8.83	
22	Dodge					182.1	441,070	5.61		148.4	5,226,820	19.97	
23	Douglas					180.2	13,000	3.61		135.6	2,933,717	19.42	
24	Faribault					184.4	112,400	7.09		170.8	589,050	5.27	
25	Fillmore					145.9	1,844,797	6.32		162.8	2,916,985	12.15	
26	Freeborn					168.6	293,646	4.82		141.4	6,636,880	16.61	
27	Goodhue					166.1	785,837	6.12		143.8	3,077,225	13.62	
28	Grant									147.2	6,723,190	19.24	
29	Hennepin					133.4	1,367,862	8.51		182.0	40,835	3.74	
30	Houston					144.6	990,598	10.74		112.7	4,164,074	20.87	
31	Hubbard									132.0	2,706,140	16.84	
32	Isanti					153.2	23,430	5.46					
33	Itasca									145.1	225,751	4.48	
34	Jackson					160.0	2,350	2.94					
35	Kanabec					253.8	4,500	4.43		157.6	261,815	7.95	
36	Kandiyohi						4,400	4.88		120.0	1,000	8.33	
37	Kittson									100.2	266,281	8.36	
38	Koochiching												
39	Lac qui Parle									11.7	1,355	5.06	

MINNESOTA BY COUNTIES, 1850-1910—*Continued*

1880				1890				1900				1910				
Total value of all farm products	Per square mile	Per acre, improved	Per capita of country population	Total value of all farm products	Per square mile	Per acre, improved	Per capita of country population	Total value of all farm products	Per square mile	Per acre, improved	Per capita of country population	Total value of all farm products	Per square mile	Per acre, improved	Per capita of country population	Counties
$ 748,961	$ 1,280.28	$ 6.04	$ 77.43	$ 1,523,050	$ 2,603.50	$ 6.62	$ 121.39	$ 1,959,182	$ 3,349.03	$ 7.06	$153.89	$ 4,252,870	$ 7,269.86	$ 14.98	$374.67	78
1,520,766	1,116.57	8.15	84.48	1,825,390	1,340.23	7.29	73.57	3,121,368	2,291.75	7.42	113.84	7,608,269	5,586.10	16.82	282.40	79
1,120,097	2,598.83	5.80	125.00	872,550	2,024.48	4.10	96.15	1,772,871	4,113.39	7.81	175.39	4,061,072	9,422.44	18.02	433.27	80
500,437	887.30	7.69	162.64	737,790	1,308.14	8.15	195.86	1,365,509	2,421.12	5.45	231.48	2,859,999	5,070.92	10.81	521.90	81
546,594	737.64	6.77	82.60	983,590	1,327.38	7.63	125.12	1,698,333	2,291.95	4.94	172.75	3,803,271	5,132.62	10.50	445.71	82
274,148	286.47	5.77	44.70	537,620	561.78	7.70	44.98	1,162,160	1,214.38	7.70	68.06	3,130,402	3,271.06	15.57	188.71	83
																84
77,585	136.59	4.78	51.48	993,630	1,749.35	9.96	273.35	1,476,927	2,600.22	5.54	280.57	3,153,334	5,551.64	10.37	596.54	85
1,991,705	3,681.52	9.30	171.79	1,583,900	2,927.73	7.28	136.71	1,940,613	3,587.09	8.52	183.87	3,933,977	7,271.68	17.13	416.38	86
68,952	128.16	8.30	38.89	151,610	281.80	5.90	60.09	409,610	761.36	6.68	180.43	879,940	1,635.58	12.62	159.41	87
																88
863,148	2,002.66	4.87	92.30	1,005,520	2,332.99	5.01	105.99	1,613,400	3,743.39	7.17	167.14	3,127,263	7,255.83	15.14	365.59	89
1,159,600	2,920.91	11.12	115.41	943,300	2,376.07	7.95	88.46	1,452,895	3,659.69	9.96	112.12	3,201,778	8,064.93	20.96	267.37	90
293,261	675.72	4.82	70.31	835,270	1,924.59	6.42	140.26	1,261,126	2,905.82	5.74	173.11	2,827,115	6,514.09	12.52	396.23	91
86,988	116.76	4.37	45.64	681,650	914.97	8.05	193.82	1,488,039	1,997.37	5.56	237.59	2,811,268	3,773.51	8.83	503.45	92
2,044,440	3,209.48	9.31	131.11	1,749,350	2,746.23	7.95	124.18	1,913,093	3,003.29	8.29	145.31	4,359,081	6,843.14	18.34	361.15	93
907,662	1,313.55	9.12	56.22	1,279,430	1,851.56	10.05	64.01	2,267,059	3,280.84	10.52	102.92	5,432,142	7,861.28	22.84	270.74	94
383,699	512.28	5.55	77.13	866,860	1,157.36	4.78	103.12	2,253,540	3,008.73	6.38	204.03	4,566,983	6,097.44	12.05	421.89	95
								118,013		4.74	53.11					96
$49,468,951	$611.80	$6.83	$91.07	$71,238,230	$881.03	$6.40	$100.60	$127,959,824	$1,582.53	$6.98	$143.73	$278,052,215	$3,438.77	$14.15	$309.45	

FARMS IN MINNESOTA BY COUNTIES, 1850-1910

1880				1890				1900				1910				
Average size, acres	Value of land and buildings	Average value per acre of land and buildings	% worked by owners	Average size, acres	Value of land and buildings	Average value per acre of land and buildings	% worked by owners	Average size, acres	Value of land and buildings	Average value per acre of land and buildings	% worked by owners	Average size, acres	Value of land and buildings	Average value per acre of land and buildings	% worked by owners	Counties
142.2	$ 12,500	$ 6.76	100.0	160.1	$ 158,950	$ 6.57	98.0	146.8	$ 862,630	$ 7.65	96.1	130.4	$ 3,161,916	$ 17.99	93.0	1
122.8	996,072	9.94	94.0	180.7	5,685,780	32.64	85.3	128.8	3,459,430	19.80	82.5	140.6	8,045,837	39.62	86.3	2
152.1	1,035,705	9.09	98.0	164.0	2,047,310	10.32	93.4	156.6	4,187,660	13.73	92.3	171.2	9,752,482	27.47	86.6	3
				156.8	38,850	4.43	100.0	150.2	1,112,410	5.96	98.8	141.9	2,821,703	12.61	94.6	4
154.4	421,695	6.07	96.7	142.0	1,579,500	14.34	91.8	141.2	3,209,050	17.83	92.1	152.6	6,916,127	35.43	89.4	5
200.2	488,875	4.61	98.7	221.1	1,813,580	10.42	91.2	265.3	5,255,560	18.98	79.6	294.4	12,406,575	43.85	65.7	6
132.3	6,405,200	17.64	83.2	134.4	9,761,590	24.01	81.9	141.4	19,187,070	42.58	76.7	152.6	28,211,078	62.85	72.4	7
																8
136.3	2,414,775	12.17	87.5	182.4	5,232,354	17.58	87.4	200.7	11,559,780	31.02	76.6	202.2	17,928,894	49.08	70.8	9
																10
155.4	85,720	6.34	98.9	149.6	165,920	11.31	95.9	110.9	748,600	11.16	95.5	100.8	3,164,396	26.26	95.2	11
112.1	4,021,855	20.26	93.7	113.1	6,882,376	33.03	91.3	109.8	7,845,820	36.18	86.8	108.6	17,704,035	81.82	83.9	12
159.8	17,555	1.64	100.0	169.2	113,150	7.78	100.0	156.6	647,340	6.19	94.8	155.1	2,523,967	17.16	90.5	13
100.4	1,147,395	11.05	90.5	193.0	2,650,580	12.30	85.0	202.9	7,657,420	22.37	81.4	228.0	14,944,592	43.73	69.0	14
101.7	1,171,426	11.29	97.3	105.4	2,563,630	17.66	94.3	109.1	4,793,950	22.32	92.0	112.6	10,398,497	46.06	91.3	15
221.0	1,489,746	9.47	97.6	214.5	3,321,940	11.79	89.7	274.1	9,991,970	18.28	85.7	305.8	20,514,786	38.60	74.7	16
												165.5	2,598,659	14.88	94.9	17
166.0	2,200	6.63	100.0	149.5	25,400	21.24	100.0	153.4	56,450	10.22	100.0	162.8	334,765	14.08	98.6	18
158.4	1,797,370	10.49	93.5	182.2	2,806,430	13.49	89.8	236.4	9,751,270	26.30	78.7	235.1	18,612,878	50.10	65.8	19
187.5	33,825	8.59	100.0	144.5	666,330	7.38	95.8	137.4	1,503,890	8.82	91.1	147.0	4,011,455	23.77	87.9	20
149.5	7,355,145	24.88	86.0	155.2	10,979,960	37.63	76.0	154.4	10,026,675	30.17	71.4	152.5	19,804,890	60.05	74.0	21
140.5	4,842,931	21.40	82.4	148.6	4,357,020	19.64	72.8	156.9	8,082,780	31.21	70.0	165.0	14,605,108	55.77	67.4	22
160.4	1,816,813	8.26	94.6	157.3	4,068,350	13.26	94.2	144.7	6,964,060	19.99	86.7	156.5	13,868,988	39.14	88.1	23
179.5	3,464,096	11.09	82.6	182.5	7,999,898	21.57	82.0	198.0	19,109,110	43.23	75.0	202.7	28,270,676	65.22	66.8	24
140.9	9,535,815	19.25	87.5	145.1	9,935,202	20.93	83.7	149.9	17,042,320	32.69	76.3	161.5	30,717,736	59.21	72.1	25
149.2	5,486,571	15.68	87.5	159.2	5,960,245	16.18	85.3	162.3	14,545,150	33.30	76.1	167.0	23,657,024	57.18	71.6	26
129.5	11,655,376	27.22	86.7	140.0	10,659,610	23.86	78.7	146.4	15,368,790	32.70	73.8	152.0	27,533,479	59.59	68.0	27
202.3	677,510	6.81	94.7	197.2	2,709,880	13.28	91.9	228.1	5,121,390	18.03	82.4	250.2	11,636,890	39.25	73.6	28
96.7	8,017,191	31.23	89.9	91.1	16,958,864	66.94	84.0	80.6	17,680,150	59.52	75.4	73.8	30,916,803	108.72	80.0	29
139.2	3,933,482	13.85	89.2	143.6	4,418,569	15.74	83.8	155.9	8,195,010	24.68	81.5	171.1	14,012,152	42.84	79.2	30
				180.4	323,560	9.24	86.1	154.7	822,870	8.30	92.7	180.3	2,671,660	17.58	90.9	31
108.2	767,680	10.31	98.7	109.4	1,367,450	9.32	94.6	108.4	3,531,030	15.94	90.8	115.2	7,630,082	32.11	89.9	32
				129.3	22,800	9.80	88.9	127.4	266,360	9.64	90.3	130.6	1,865,665	17.21	95.2	33
143.3	1,001,225	8.59	92.6	159.9	3,173,595	14.75	83.2	207.3	12,017,630	29.75	72.5	215.8	22,838,506	55.52	63.3	34
133.5	35,754	4.12	96.9	95.1	223,420	10.93	96.7	170.2	1,267,740	9.95	96.1	114.4	3,970,268	34.12	92.6	35
153.4	2,240,939	9.52	93.2	158.7	4,552,260	14.65	91.1	195.6	9,902,320	22.35	80.0	207.1	19,180,413	41.40	73.8	36
186.5	88,143	3.69	99.2	261.4	2,285,955	9.88	97.7	268.3	5,342,940	15.73	91.5	307.5	11,542,577	31.02	85.6	37
												165.0	912,920	12.46	98.2	38
176.0	1,350,834	6.51	97.6	206.4	4,145,300	12.96	92.5	233.1	10,899,910	23.97	76.2	249.1	22,747,997	49.02	65.5	39

TABLE XXXVI—Average Size, Value, and Tenure of

Counties	1850				1860				1870			
	Average size, acres	Value of land and buildings	Average value per acre of land and buildings	% worked by owners	Average size, acres	Value of land and buildings	Average value per acre of land and buildings	% worked by owners	Average size, acres	Value of land and buildings	Average value per acre of land and buildings	% worked by owners
40 Lake									211.0	$ 16,000	$ 25.28	
41 Le Sueur					143.6	$ 575,465	$ 4.53		114.5	2,614,215	14.87	
42 Lincoln												
43 Lyon												
44 McLeod					184.2	99,815	3.96		146.4	1,107,763	8.03	
45 Mahnomen												
46 Mankahta												
47 Manomin					132.6	62,060	29.25					
48 Marshall												
49 Martin					158.3	5,800	4.58		161.3	1,073,755	9.52	
50 Meeker					154.1	75,710	3.90		129.4	1,136,505	9.42	
51 Mille Lacs					217.2	4,090	3.14		158.6	86,410	5.99	
52 Monongalia					112.1	7,500	3.18		145.6	495,995	5.85	
53 Morrison					153.5	56,800	6.98		136.6	107,221	6.23	
54 Mower					164.5	234,030	6.44		137.7	2,674,775	16.69	
55 Murray					160.0	1,500	3.13		160.5	15,100	6.27	
56 Nicollet					153.4	502,885	7.66		137.0	1,907,475	14.23	
57 Nobles												
58 Norman												
59 Olmsted					141.5	1,453,690	7.97		148.0	7,308,111	21.77	
60 Otter Tail					202.0	17,550	7.24		123.2	151,281	4.65	
61 Pembina		$ 4,400										
62 Pennington												
63 Pierce												
64 Pine					142.4	4,500	4.51		85.0	5,000	29.41	
65 Pipestone												
66 Polk					356.7	16,000	7.48					
67 Pope									167.1	493,833	5.32	
68 Ramsey		32,270			91.0	509,710	28.57		98.8	1,083,950	45.13	
69 Red Lake												
70 Redwood									202.4	48,600	10.44	
71 Renville					322.0	24,660	3.19		146.1	343,490	4.59	
72 Rice					169.6	985,955	7.23		132.1	3,584,355	17.28	
73 Rock									162.8	10,700	3.46	
74 Roseau												
75 Saint Louis					147.4	21,100	8.42					
76 Scott					131.3	694,230	8.61		117.1	2,204,115	14.37	
77 Sherburne					208.4	126,631	5.52		176.2	486,950	9.90	
78 Sibley					145.3	284,700	3.31		135.7	1,468,800	9.68	
79 Stearns					163.5	627,000	5.41		170.5	2,740,575	8.04	
80 Steele					175.5	332,150	5.74		142.5	1,974,300	16.68	
81 Stevens									151.7	37,300	5.23	
82 Swift												
83 Todd					383.2	55,200	4.12		179.6	219,370	6.94	
84 Toombs												
85 Traverse									160.0	400	1.25	
86 Wabasha		8,100			159.9	1,144,595	8.82		146.2	5,997,080	21.78	
87 Wadena									136.0	250	1.84	
88 Wahnahta		5,064										
89 Waseca					165.8	160,180	5.06		141.5	1,995,036	13.69	
90 Washington		77,864			131.6	702,615	11.86		154.5	2,681,780	25.56	
91 Watonwan									133.2	617,350	11.39	
92 Wilkin									134.5	23,003	2.54	
93 Winona					149.4	9,820,187	86.59		133.3	5,893,010	21.71	
94 Wright					147.4	425,792	4.48		125.5	1,131,256	11.17	
95 Yellow Medicine												
96 Indian Reservations												
Totals for the State		$161,948	$5.61		150.7	$27,505,922	$10.14		139.4	$97,847,442	$ 15.09	

FARMS IN MINNESOTA BY COUNTIES, 1850-1910—*Continued*

1880				1890				1900				1910				
Average size, acres	Value of land and buildings	Average value per acre of land and buildings	% worked by owners	Average size, acres	Value of land and buildings	Average value per acre of land and buildings	% worked by owners	Average size, acres	Value of land and buildings	Average value per acre of land and buildings	% worked by owners	Average size, acres	Value of land and buildings	Average value per acre of land and buildings	% worked by owners	Counties
536.5	$ 2,850	$ 1.33	100.0	196.0	$ 17,400	$ 14.80	100.0	128.2	$ 25,500	$ 10.47	100.0	106.1	$ 388,765	$ 17.45	94.8	40
102.3	4,017,150	18.09	90.0	128.7	6,478,730	23.75	87.1	116.7	9,620,950	33.34	84.4	118.1	17,499,195	66.80	83.6	41
179.4	632,515	5.16	96.3	171.5	1,767,910	9.86	88.6	224.1	6,520,030	21.71	84.3	234.8	13,471,887	44.01	71.9	42
164.6	1,640,623	9.02	92.9	211.3	3,269,473	12.92	86.7	244.1	9,964,950	25.01	74.8	238.7	19,806,261	49.33	62.7	43
124.0	2,900,190	13.42	93.0	131.1	6,570,970	24.22	89.5	129.4	10,682,210	35.36	86.1	131.8	19,903,950	66.58	83.4	44
												169.3	989,905	23.57	79.0	45
																46
																47
234.0	169,150	3.61	99.0	213.7	2,874,679	8.78	92.6	220.5	6,662,030	12.26	90.9	267.7	14,081,313	24.80	86.6	48
162.8	1,647,863	10.67	85.9	173.7	4,246,018	16.35	78.9	196.8	13,954,630	32.61	70.3	196.1	26,287,282	61.46	64.1	49
124.1	3,076,745	14.00	91.6	138.4	6,033,820	20.01	90.4	137.8	10,004,210	28.91	84.9	152.8	18,105,691	50.51	80.0	50
185.8	144,500	7.48	97.1	167.3	310,100	10.30	93.9	93.6	1,678,090	17.54	93.0	96.8	4,567,956	36.94	90.5	51
																52
146.2	1,043,242	8.33	97.3	136.2	2,613,810	12.48	93.4	138.3	4,932,620	14.87	92.2	142.9	11,334,897	30.25	90.5	53
152.3	6,638,617	19.25	83.4	170.7	7,230,760	19.70	78.9	176.9	17,571,170	40.59	73.8	179.6	26,936,721	62.87	70.6	54
156.3	782,340	7.02	92.8	177.7	2,357,040	12.63	86.9	224.8	10,620,220	27.58	71.9	244.5	20,242,134	50.47	64.9	55
155.6	3,191,221	14.59	88.0	177.4	5,909,258	22.87	82.1	187.3	8,630,170	31.69	74.3	185.4	13,387,912	51.06	67.0	56
173.2	1,271,355	8.96	93.4	198.1	3,563,280	15.35	79.7	240.0	12,662,110	30.13	64.0	229.9	26,240,715	62.75	53.5	57
				190.3	3,320,280	10.27	91.4	221.4	8,003,010	18.66	87.5	253.2	13,996,985	33.44	78.5	58
251.1	9,433,926	24.36	83.1	163.9	8,677,600	23.55	75.5	159.9	16,276,920	40.10	73.8	170.4	23,041,201	58.54	70.8	59
150.6	3,650,223	7.73	97.5	148.5	8,511,465	11.88	91.1	151.7	15,521,600	16.43	88.5	171.7	31,883,306	31.99	85.7	60
																61
												207.0	5,128,728	19.92	87.8	62
																63
113.5	64,775	10.57	88.9	118.2	300,330	9.73	98.5	104.8	1,827,320	12.31	96.0	111.7	6,234,866	27.03	94.0	64
61.6	484,720	5.39	90.7	196.8	1,592,110	13.20	77.3	242.4	6,283,720	26.01	58.7	254.0	14,941,735	55.76	52.2	65
215.4	3,189,394	8.45	98.7	193.2	9,085,270	10.21	92.7	224.3	16,054,900	16.50	88.5	252.2	29,738,082	33.46	81.1	66
168.1	1,359,562	7.90	95.3	190.4	3,386,252	11.48	94.8	202.4	6,262,600	16.53	86.2	226.4	13,032,141	34.91	80.1	67
79.4	2,151,715	50.79	84.6	82.8	8,424,800	196.11	75.9	65.9	5,046,190	83.02	65.0	56.7	8,751,165	144.54	78.1	68
								186.5	2,554,830	9.89	90.9	238.0	3,006,651	23.98	81.2	69
189.6	1,447,926	8.15	89.0	191.9	3,630,586	13.98	87.0	216.6	14,170,310	27.86	77.3	228.2	26,259,980	49.78	65.7	70
130.2	2,472,493	10.68	93.5	176.6	6,862,455	15.36	90.6	194.0	15,921,600	27.23	77.8	205.4	28,853,443	48.92	70.2	71
118.3	6,001,613	21.74	91.0	111.6	7,198,310	26.06	87.2	114.3	12,284,210	40.21	84.8	125.2	19,504,914	65.47	81.0	72
216.6	1,463,930	9.38	89.2	216.4	3,412,250	16.94	67.7	246.7	9,142,400	31.70	48.6	239.3	22,252,685	77.17	42.5	73
								163.9	1,704,020	7.20	98.5	196.7	4,819,868	15.30	93.6	74
99.7	182,780	14.10	97.7	108.1	1,072,040	30.42	94.8	86.1	916,340	15.29	91.7	110.7	5,768,299	21.13	95.6	75
128.3	3,856,733	19.98	91.9	128.7	4,879,310	25.18	85.9	129.9	7,448,660	34.77	83.2	136.8	12,557,580	60.41	79.5	76
150.8	743,739	8.23	92.8	166.9	1,800,374	13.92	83.7	169.9	2,635,300	14.71	83.7	171.9	6,166,413	30.15	82.7	77
134.5	2,887,906	13.60	91.8	164.2	7,386,880	22.66	91.7	164.4	11,382,580	31.81	83.1	173.9	18,919,439	52.96	76.5	78
157.3	4,899,008	10.79	93.0	168.2	9,859,330	16.36	89.4	164.4	15,641,300	21.39	83.2	178.9	29,107,101	38.24	83.5	79
151.4	4,613,254	18.96	91.5	149.0	4,404,262	18.58	87.2	146.2	11,224,240	42.62	82.8	143.9	16,011,755	60.98	79.9	80
232.9	1,363,320	8.87	96.8	262.2	1,947,738	10.58	91.3	270.0	5,574,770	17.86	84.0	300.4	11,973,590	39.27	65.4	81
170.1	1,795,566	8.08	97.2	194.0	2,911,310	10.98	92.4	231.2	8,011,240	19.31	82.5	265.9	15,602,438	38.18	73.5	82
139.0	981,390	6.73	92.7	126.0	2,469,480	10.97	91.8	120.6	7,120,370	19.46	88.8	141.7	13,300,865	31.35	86.1	83
																84
251.3	492,523	4.95	99.0	234.2	2,142,070	11.22	90.9	296.2	6,106,620	18.98	76.4	337.1	14,265,832	44.92	60.4	85
152.7	6,700,535	22.12	84.8	165.5	6,167,640	21.08	77.0	169.3	10,398,870	32.04	77.6	179.6	16,800,715	52.36	72.6	86
149.5	305,050	7.88	98.5	158.4	635,650	9.98	93.5	142.8	1,599,520	11.31	89.8	158.0	3,848,829	24.26	87.5	87
																88
145.8	4,062,241	18.16	87.3	147.8	5,323,830	22.35	84.3	157.0	10,891,680	41.50	79.4	163.6	14,929,925	58.24	77.2	89
127.3	4,452,498	26.23	91.7	119.8	7,172,860	38.52	89.1	116.6	7,829,560	36.44	82.3	116.5	14,019,332	61.95	81.5	90
108.6	1,148,792	12.84	92.0	183.6	3,670,280	19.24	87.7	198.2	8,232,390	32.18	74.1	198.3	14,041,160	55.79	68.1	91
274.5	633,010	6.61	97.1	261.0	1,791,094	11.61	91.4	285.6	6,206,630	19.46	78.6	340.8	13,914,965	41.42	61.3	92
140.0	7,303,606	21.79	86.1	164.6	7,732,670	22.87	78.9	157.5	12,495,170	33.62	78.5	174.8	19,142,981	51.15	74.5	93
93.8	3,445,187	13.52	92.6	92.2	7,549,371	23.26	89.5	96.2	11,908,010	31.01	86.3	104.7	23,658,273	59.25	85.3	94
175.4	1,167,065	6.53	97.6	199.2	3,842,717	13.23	90.3	226.3	10,367,590	24.47	82.2	245.8	21,285,124	47.12	69.6	95
								251.4	932,420	10.66	80.2					96
145.1	$193,724,260	$14.45	90.9	159.7	$340,059,470	$18.22	87.1	169.7	$669,522,315	$25.51	82.0	177.3	$1,262,441,426	$45.62	78.2	

TABLE XXXVII—FARM SIZES AND VALUES BY GROUPS AND KINDS OF PROPERTY FOR THE STATE AS A WHOLE, 1850-1910

ITEMS	1850	1860	1870	1880	1890	1900	1910
I. Number of farms	157	*17,999	46,500	92,386	116,851	154,659	156,137
Per cent of increase		*11,364.3%*	*158.4%*	*98.7%*	*26.5%*	*32.4%*	*1.0%*
II. Farms by sizes							
Under 20 acres; number		6,946	12,154	1,592	2,022	4,803	5,619
Per cent of total		*38.6%*	*26.1%*	*1.7%*	*1.7%*	*3.1%*	*3.6%*
Per cent of change			*75.0%*	*—86.9%*	*27.0%*	*137.5%*	*17.0%*
20-99 acres; number		10,402	29,177	33,533	35,905	44,268	38,599
Per cent of total		*57.8%*	*62.8%*	*36.3%*	*30.7%*	*28.6%*	*24.7%*
Per cent of change			*180.5%*	*14.9%*	*7.1%*	*23.3%*	*—12.8%*
100-174 acres; number						56,785	55,424
Per cent of total						*36.7%*	*35.5%*
Per cent of change							*—2.4%*
175-499 acres; number		649	5,039	56,375	77,048	45,473	52,836
Per cent of total		*3.6%*	*10.8%*	*61.0%*	*65.9%*	*29.4%*	*33.8%*
Per cent of change			*676.4%*	*1,018.8%*	*36.7%*	*‡32.7%*	*16.2%*
500-999 acres; number		2	128	741	1,594	2,965	3,359
Per cent of total		†	*0.3%*	*0.8%*	*1.4%*	*1.9%*	*2.2%*
Per cent of change			*6,300.0%*	*478.9%*	*115.1%*	*86.0%*	*13.3%*
1000 acres and over; number			2	145	282	365	300
Per cent of total			†	*0.2%*	*0.3%*	*0.3%*	*0.2%*
Per cent of change				*7,150.0%*	*94.5%*	*29.4%*	*—17.8%*
Average size; total acres	184.0	150.7	139.4	145.1	159.7	169.7	177.3
Per cent of change		*—18.1%*	*—7.5%*	*4.1%*	*10.1%*	*6.3%*	*4.5%*
Average size; improved acres	32.1	30.9	49.9	78.4	95.2	118.6	125.8
Per cent of change		*—3.7%*	*61.5%*	*57.1%*	*21.4%*	*24.6%*	*6.1%*
III. Value of all farm property, dollars	$270,788	$32,166,946	$124,687,403	$238,718,864	$414,701,626	$788,684,642	$1,476,411,737
Per cent of increase		*11,779.0%*	*287.6%*	*91.5%*	*73.7%*	*90.2%*	*87.2%*
Land alone; value						559,301,900	1,019,102,027
Per cent of total value						*70.9%*	*69.0%*
Per cent of change in value							*82.2%*
Buildings	161,948	27,505,922	97,847,442	193,724,260	340,059,470	110,220,415	243,339,399
Per cent of total value	*59.8%*	*85.5%*	*78.5%*	*81.2%*	*82.0%*	*14.0%*	*16.5%*
Per cent of change		*16,884.4%*	*255.7%*	*98.0%*	*75.5%*	*§96.9%*	*120.8%*
Implements	15,981	1,018,183	6,721,120	13,089,783	16,916,473	30,099,230	52,329,165
Per cent of total value	*5.9%*	*3.2%*	*5.4%*	*5.5%*	*4.1%*	*3.8%*	*3.5%*
Per cent of change		*6,271.2%*	*560.1%*	*94.8%*	*29.2%*	*77.9%*	*73.9%*
Live stock	92,859	3,642,841	20,118,841	31,904,821	57,725,683	89,053,097	161,641,146
Per cent of total value	*34.3%*	*11.3%*	*16.1%*	*13.3%*	*13.9%*	*11.3%*	*11.0%*
Per cent of change		*3,823.0%*	*452.3%*	*58.6%*	*80.9%*	*54.3%*	*81.5%*
IV. Average value of farms per acre	$9.38	$11.86	$19.23	$17.81	$22.22	$30.05	$53.35
Per cent of change		*26.4%*	*62.1%*	*—7.4%*	*24.8%*	*35.2%*	*77.5%*
Land alone						21.31	36.82
Per cent of change							*72.8%*
Buildings	5.61	10.14	15.09	14.45	18.22	4.20	8.80
Per cent of change		*80.7%*	*48.8%*	*—4.3%*	*26.1%*	*§40.0%*	*109.5%*
Implements	0.55	0.38	1.04	0.98	0.91	1.15	1.89
Per cent of change		*—30.9%*	*173.7%*	*—5.8%*	*—7.2%*	*26.4%*	*64.3%*
Live stock	3.22	1.34	3.10	2.38	3.09	3.39	5.84
Per cent of change		*—58.4%*	*131.3%*	*—23.2%*	*29.8%*	*9.7%*	*72.3%*
V. Farm ownership							
Operated by owners				83,933	101,747	126,809	122,104
Per cent of total				*90.9%*	*87.1%*	*82.0%*	*78.2%*
Per cent of change					*21.2%*	*24.6%*	*—3.7%*
Operated by tenants				8,453	15,104	26,755	32,811
Per cent of total				*9.1%*	*12.9%*	*17.3%*	*21.0%*
Per cent of change					*78.7%*	*77.1%*	*22.6%*
Operated by managers						1,095	1,222
Per cent of total						*0.7%*	*0.8%*
Per cent of change							*11.6%*

* Total as taken from returns by counties, and not total for state as given in Census Report.
† Less than one-tenth of one per cent.
‡ Applies to the total number of farms between 100 and 499 acres.
§ Applies to the total value of land and buildings.

TABLE XXXVIII—NUMBER AND VALUE OF LIVE STOCK IN MINNESOTA BY COUNTIES, 1850-1910

COUNTIES	1850		1860		1870		1880		1890		1900		1910	
	Number	Value	Number	Value	Number	Value	Number	Value	Number	Value	Number	Value	Number	Value
Aitkin					6	$ 330	185	$ 3,470	1,789	$ 59,130	8,522	$ 210,367	16,752	$ 473,484
Anoka			2,292	$ 44,062	5,920	138,944	12,637	217,329	17,404	409,880	24,846	518,645	26,112	1,017,421
Becker					118	4,360	9,933	268,649	22,062	498,531	34,860	776,486	44,041	1,456,969
Beltrami									388	10,780	8,788	216,449	12,427	391,307
Benton	347	$11,925	593	9,295	1,084	30,138	6,513	118,932	14,389	281,955	25,879	485,863	37,324	1,119,317
Big Stone					58	1,670	3,723	128,248	16,680	471,790	26,450	612,457	37,807	1,348,896
Blue Earth			6,232	65,316	28,572	886,048	57,916	1,102,247	84,989	1,474,821	104,168	2,052,094	113,449	3,227,831
Breckenridge														
Brown			3,642	46,522	9,812	318,060	28,736	553,821	51,566	818,770	63,722	1,302,136	78,071	3,232,304
Buchanan														
Carlton			31	800			435	18,210	861	20,790	6,484	152,488	12,474	422,503
Carver			10,827	110,912	27,666	513,100	35,786	500,288	48,358	681,812	63,549	1,088,919	71,500	1,923,818
Cass					27	1,360	192	9,250	1,185	25,950	7,041	163,806	14,301	383,562
Chippewa					2,896	90,804	10,387	262,099	26,807	658,110	50,141	969,627	56,474	1,759,354
Chisago			2,846	27,153	5,589	163,325	15,509	255,826	23,606	409,330	37,418	796,296	40,160	1,344,671
Clay					49	2,085	7,880	317,270	33,091	771,715	45,475	1,349,664	47,704	2,353,744
Clearwater													15,077	401,645
Cook							5	320	17	420	195	5,338	392	24,738
Cottonwood			21	340	361	12,420	19,898	375,721	50,179	679,536	62,400	1,114,378	87,237	2,291,707
Crow Wing					218	9,075	401	10,645	5,836	145,620	15,257	338,981	19,317	531,583
Dakota			13,493	202,177	25,227	1,014,741	34,574	856,449	62,868	1,192,130	57,397	1,271,751	65,002	2,316,378
Dodge			6,397	101,452	19,512	577,198	27,272	718,639	55,694	863,440	76,999	1,201,699	81,440	2,163,393
Douglas			225	5,060	5,516	168,758	23,128	384,356	35,405	628,535	49,300	919,429	59,415	1,738,842
Faribault			1,590	29,164	18,723	587,898	55,743	778,882	91,402	1,295,240	107,288	1,901,347	110,628	3,117,811
Fillmore			28,121	429,091	46,636	1,409,805	76,673	1,372,551	121,072	1,789,035	178,388	2,581,696	169,469	4,327,856
Freeborn			4,348	69,607	23,391	665,956	42,390	878,974	92,694	1,156,910	129,157	2,208,584	127,943	3,279,323
Goodhue			10,335	172,918	35,368	1,331,058	48,927	1,318,611	96,246	1,581,210	101,086	1,980,402	104,830	3,507,509
Grant					534	16,924	7,340	193,810	23,274	650,840	33,141	669,585	36,598	1,330,714
Hennepin			17,572	235,715	27,084	862,159	41,823	780,971	51,571	1,092,740	70,379	1,638,754	72,246	2,809,233
Houston			9,454	141,801	22,122	518,650	54,733	688,368	84,070	982,192	101,766	1,349,303	103,016	2,178,443
Hubbard									2,505	70,160	5,491	135,242	10,732	347,979
Isanti			356	5,460	3,404	85,921	11,530	189,811	20,882	279,500	28,705	571,821	30,254	1,042,109
Itasca	102	995							123	7,110	1,887	54,306	5,692	237,801
Jackson			49	725	2,118	59,576	17,120	265,349	49,625	734,896	90,893	1,536,034	102,012	2,655,637
Kanabec			102	2,550	17	600	578	11,856	2,486	34,640	12,211	196,880	18,540	545,934
Kandiyohi			87	1,179	2,566	77,733	29,608	594,470	48,645	917,840	65,028	1,325,587	78,869	2,544,120
Kittson							634	23,075	15,764	487,537	26,510	838,022	33,100	1,519,248
Koochiching													1,603	84,191
Lac qui Parle					241	8,655	10,543	313,872	38,232	917,055	59,291	1,339,995	73,523	2,430,087
Lake					44	1,450	112	1,925	101	1,610	150	4,483	826	37,385
Le Sueur			15,913	130,712	27,275	574,377	40,593	573,851	53,073	795,780	61,498	1,069,550	69,543	1,872,189
Lincoln							5,887	145,394	24,020	419,120	51,314	799,030	55,240	1,635,036
Lyon							14,976	375,651	37,151	727,973	74,996	1,282,914	80,331	2,390,874
Mc Leod			1,375	25,217	13,719	290,165	31,046	538,825	45,557	840,270	62,122	1,286,106	76,785	2,301,595
Mahnomen													4,217	180,012
Mankahta														
Manomin			195	5,210										
Marshall							1,031	51,457	27,084	671,465	57,363	1,320,559	59,301	2,012,692
Martin			86	1,410	6,150	239,240	35,091	446,014	68,216	1,008,770	96,510	1,642,804	115,583	3,144,244
Meeker			1,378	22,664	12,329	263,249	26,263	568,888	39,714	888,400	57,873	1,338,073	75,484	2,547,820
Mille Lacs			69	1,380	1,142	33,869	2,070	47,375	4,515	79,040	14,565	310,415	25,133	773,356
Monongalia			223	3,500	7,064	167,018								
Morrison			1,201	12,680	2,458	56,116	9,752	226,487	25,997	504,080	44,769	880,862	63,946	1,731,306
Mower			3,155	50,505	15,420	516,132	39,080	937,408	72,151	1,221,460	121,196	2,042,920	105,810	3,289,417
Murray			31	325	268	5,850	8,253	187,000	26,677	574,430	90,582	1,274,033	93,879	2,440,877
Nicollet			5,214	96,433	12,868	365,841	33,490	685,550	54,767	3,369,190	60,497	1,107,243	56,731	1,777,206
Nobles							17,868	275,583	43,686	731,290	102,091	1,395,237	119,436	2,984,123
Norman									32,823	751,490	46,098	1,138,978	47,880	1,715,141
Olmsted			19,665	257,306	35,947	1,362,321	50,529	1,109,918	99,298	1,381,990	121,675	1,946,401	135,562	3,141,877
Otter Tail			108	3,630	2,749	54,853	36,819	911,770	78,123	1,700,225	112,930	2,361,082	145,064	4,314,146
Pembina	945	45,295												
Pennington													30,139	887,395
Pierce														
Pine			50	1,155	73	2,050	408	9,646	2,690	56,005	17,209	342,360	32,122	904,663
Pipestone							3,025	94,994	13,607	304,430	49,317	728,088	72,663	1,553,436
Polk			139	5,450			12,653	549,002	76,214	1,838,973	91,686	2,435,827	95,989	3,704,380
Pope					5,212	113,372	18,706	437,484	37,835	778,720	46,765	986,769	50,061	1,730,764
Ramsey	327	5,005	2,607	61,915	4,367	164,037	6,805	177,161	8,987	494,450	15,728	416,683	16,742	711,008
Red Lake											29,955	624,011	16,944	530,186
Redwood					601	15,473	17,054	318,757	46,269	844,850	79,047	1,682,705	95,420	2,890,745
Renville			441	10,698	4,294	116,999	29,369	656,728	63,188	1,313,665	91,332	1,852,756	109,778	3,436,289
Rice			13,646	179,817	30,916	777,420	40,610	776,124	64,919	1,132,590	78,283	1,394,181	81,458	2,435,138
Rock					153	6,075	11,117	286,059	39,370	661,570	89,874	1,176,185	96,410	2,401,313
Roseau											19,303	406,590	33,306	954,641
Saint Louis			54	2,560			1,222	29,600	1,996	64,265	5,881	183,291	16,991	726,394
Scott			8,643	124,232	23,867	516,568	28,090	471,435	39,554	623,940	55,047	978,207	54,374	1,490,852
Sherburne			1,223	26,913	4,301	129,560	12,171	226,325	20,888	436,090	30,027	621,848	28,264	898,958

TABLE XXXVIII—Number and Value of Live Stock in Minnesota by Counties, 1850-1910—*Continued*

Counties	1850		1860		1870		1880		1890		1900		1910	
	Number	Value	Number	Value	Number	Value	Number	Value	Number	Value	Number	Value	Number	Value
Sibley			6,734	$ 82,501	18,878	$ 412,565	34,418	$ 556,371	55,074	$ 449,290	69,744	$ 1,265,766	79,005	$ 2,201,733
Stearns			7,845	118,243	27,768	603,931	53,318	1,031,789	75,149	1,504,430	117,760	2,187,966	142,167	3,959,713
Steele			4,108	73,511	13,438	375,185	29,190	660,764	52,872	784,180	76,809	1,334,578	78,074	2,221,557
Stevens					383	9,840	4,831	231,354	17,573	446,900	34,950	733,221	41,655	1,315,506
Swift							13,833	383,356	32,235	712,040	47,258	1,024,257	51,916	.,878,466
Todd			396	10,920	1,777	52,171	13,387	265,486	28,376	511,165	51,135	918,375	69,390	1,890,903
Toombs														
Traverse					4	200	1,740	97,477	12,384	424,955	23,211	622,749	32,942	1,442,052
Wabasha	624	$ 1,585	9,165	221,850	28,273	989,948	29,747	703,153	74,303	977,150	78,524	1,239,807	85,353	2,170,305
Wadena					18	1,450	1,632	51,580	6,517	133,800	17,355	310,959	23,393	625.840
Wahnahta	127	6,365												
Waseca			3,194	40,548	14,750	410,662	27,188	544,792	48,131	850,070	66,350	1,207,898	64,907	1,770,781
Washington	1,218	15,689	7,827	122,388	11,016	383,650	19,407	479,353	32,102	720,840	41,314	890,284	44,179	1,669,805
Watonwan					4,236	136,198	17,107	300,476	40,139	620,340	57,470	1,002,315	61,890	1,700,184
Wilkin					525	17,160	2,299	103,928	12,853	353,237	26,400	707,751	29,624	1,320,214
Winona			10,283	156,902	26,739	1,144,203	42,885	921,777	66,419	1,107,770	82,325	1,374,816	101,989	2,638,487
Wright			7,633	90,967	12,699	252,292	43,855	628,392	61,228	985,745	90,307	1,588,748	108,341	3,145,098
Yellow Medicine							12,685	315,990	41,773	827,690	70,333	1,212,757	77,272	2,404,291
Indian Reservations											3,759	93,774		
Totals for the State on farms and ranges	3,690	$92,859	251,214	$3,642,841	686,556	$20,118,841	1,574,364	$31,904,821	3,097,363	$57,725,683	4,610,799	$86,620,643	5,269,040	$156,771,855
Totals for the State not on farms and ranges											156,215		151,617	$ 12,862,351
Grand Total											4,767,014		5,420,657	$169,634,206

Note: The total values given for 1890 and 1880 and 1870 seem to include values of poultry and bees as well as domestic animals.
Note: The Census of 1870 (page 75) gives the number of horses not on farms as 9,667 in 1870, and 8,063 in 1860.
The same table gives the number of cattle not on farms as 54,862 in 1870, and 29,823 in 1860.

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